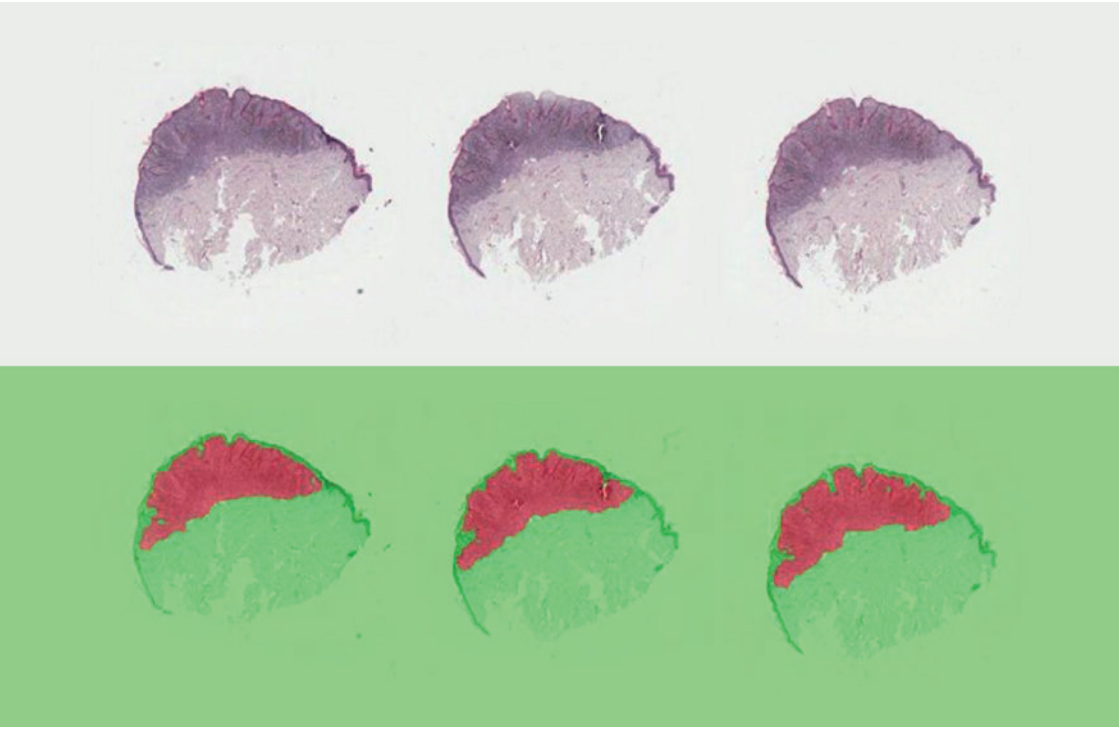
BWP Belgian Week of Pathology

14th BELGIAN WEEK OF PATHOLOGY

04.10 > 05.10.24

@ TANGLA HOTEL



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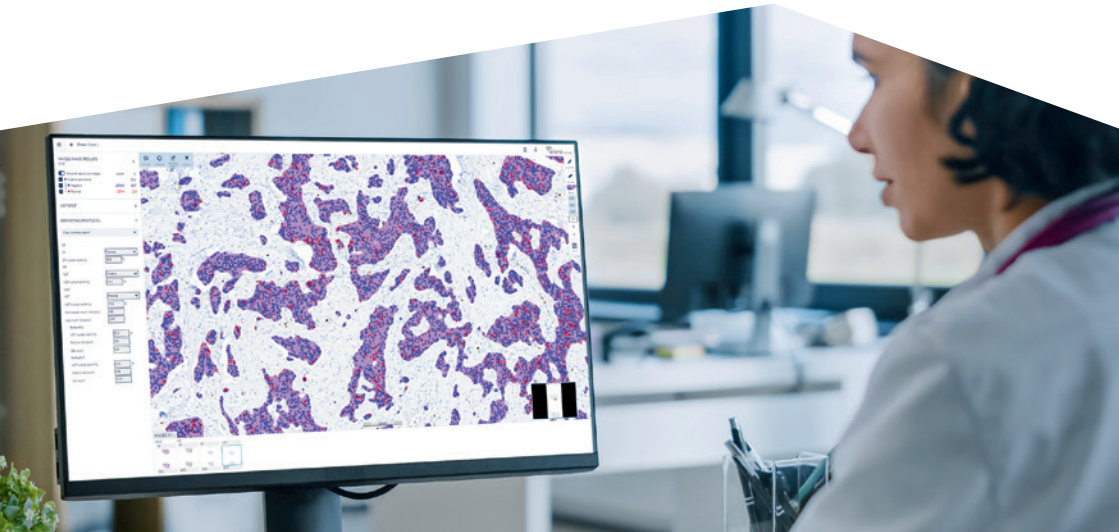

Dear Colleagues and Friends,

It is our pleasure to announce the 14th edition of the **Belgian Week of Pathology** (BWP), which will be held at the Tangla Hotel in Brussels, on October 4-5, 2024.

Over the years, the BWP has provided an environment where pathologists can share knowledge, insights and experiences to enhance their development for the benefit of patients and to foster collaboration.

In particular, at the last congress, the number of participants exceeded 300, representing the vast majority of the pathologists in Belgium, which points out the importance of this event.

This is achieved through the **educational program** with distinguished national and international speakers, the **professional organisation** of the congress and the support of our **industry partners**. Our aspiration this year is to continue this successful congress of the BWP.

The different **working groups** of the Belgian Society of Pathology have outdone themselves to build a program of high scientific interest and value. This year, more working groups are invited to participate. Moreover, we find important to support and invest to the next generation of pathologists. Therefore, we invited the Young Pathologists Group to contribute with their own session.

Professor **Nasir Rajpoot** from Warwick University will give the **Keynote** lecture which will be on Artificial Intelligence in pathology (present and future). Nasir Rajpoot is Professor of Computational Pathology at the University of Warwick, the founding Director of Tissue Image Analytics (TIA) Centre at Warwick since 2012 and also co-Director of the PathLAKE centre of excellence on AI in pathology since 2019.

We are leading a revolution in oncology to redefine cancer care

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NS ID XL-4148-Revision date 02/2024-LB Local code 319

We are also very pleased to announce the submission of a **large number of abstracts**. These abstracts are of high scientific quality and will be presented as either posters or oral free presentations. Multiple prices will be awarded for excellent research but also for presenting interesting and difficult cases.

An equally important event of the BWP is the **Pathology Congress Dinner** on Friday evening at the Tangla Hotel! Here, you get the opportunity to reunite with your colleagues and friends and to meet the guest speakers in person. So don't miss out on the opportunity to reserve your spot!

Behind this **professional organization** of the congress is the dynamic team of Mrs Anne-France De Meyer that have received nothing but positive feedback from all participants. This year they promise another **successful BWP**.

Last but not least, the BWP 2024 will be accompanied by a major exhibition. Our grateful acknowledges to all our **partners** from the industry for their renewed and ongoing support! As in the past, we look forward to continuing our constructive collaboration.

We look forward to seeing you all there!

Vasiliki SIOZOPOULOU

President of the Belgian Week of Pathology

Koen VAN DE VIJVER

President of the Belgian Society of Pathology

Accreditation

Accreditation has been requested with the INAMI/RIZIV for ethics and economy as well as anatomo-pathology.

Submission is done on the computers available in the exhibition area.

Submission is requested twice a day on Friday, and only twice on Saturday. For ethics and economy a physical signature will be additionally asked at the beginning of the session.

Language

The language of the congress is English (British spelling) for abstracts, slides and announcements.

Abstracts

Authors were invited to submit abstracts until July 8, 2024.

The result of evaluation was sent to the first authors during the month of August 2024.

- Oral presentations will be presented during the related sessions
- e-Poster presentations will take place during the morning and afternoon coffee breaks and lunch of Friday October 04 and Saturday October 05.

e-Posters will be displayed during the congress on the assigned screens in the Exhibition Area.

The Belgian Week of Pathology and the Belgian Society of Pathology will award:

- Best Oral Presentation: Research (500€)
- Best Oral Presentation: Case report (500€)
- Best e-Poster: Research (500€)
- Best e-Poster: Case report (500€)

Venue

TANGLA Hotel Brussels
5, Avenue Emmanuel Mounier
1200 Brussels

Parking available

Parking: Several possibilities during the 3 days

- the Parking of the Tangla Hotel is available,
  the cost per day will be 5€ per day: 120 spaces
- the Q-Parc of Hospital Saint-Luc **or** the Q-Parc Esplanade
- along Avenue Mounier with time restriction,
  the Parking disc is mandatory.

Event Coordinator

Vivactis/Medisquare

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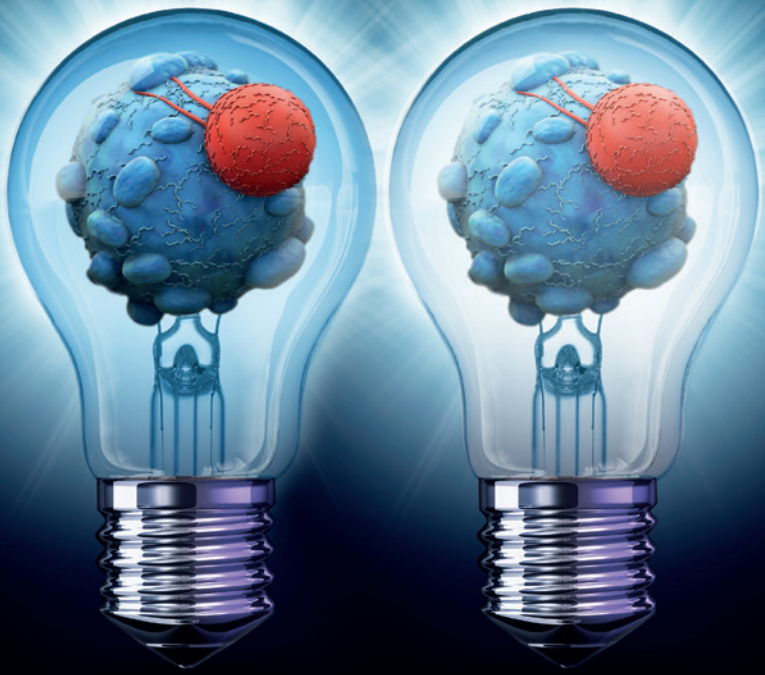

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www.belgian-society-pathology.eu

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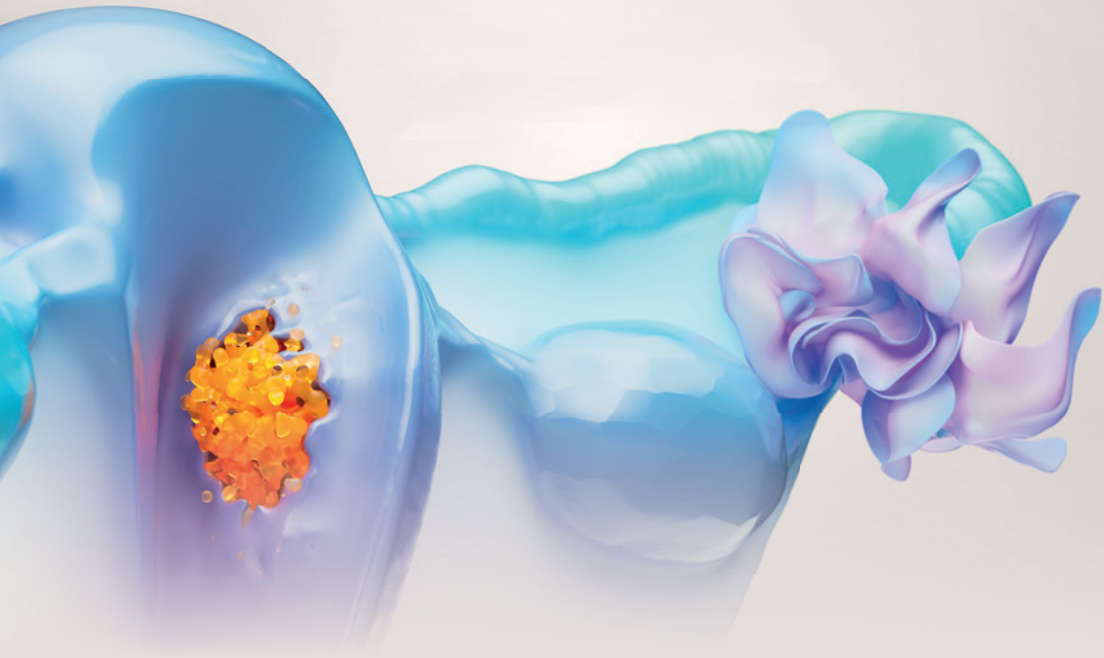

Please report adverse events to the Belgian Centre for Pharmacovigilance for medicines for Human use of the Federal Agency for Medicines and Health Products via adr@afmps.be or via www.notifieruneffetindesirable.be or to GlaxoSmithKline Pharmaceuticals s.a./n.v. via be.medinfo@gsk.com

Please report adverse events to the Centre Régional de Pharmacovigilance de Nancy or Division de la pharmacie et des médicaments de la Direction de la santé via www.guichet.lu/pharmacovigilance or to GlaxoSmithKline Pharmaceuticals s.a./n.v. via be.medinfo@gsk.com

NP-BE-DST-JRNA-240001 – September 2024
RE: GlaxoSmithKline Pharmaceuticals s.a./n.v. Av. Fleming 20, 1300 Wavre Belgium

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FRIDAY 04/10

■ ROYAL 1
■ ROYAL 2 & 3

08.00-09.00 WELCOME

09.00-10.30 ■ **SURGICAL PATHOLOGY**
■ **MOLECULAR PATHOLOGY** Working Group

10:30-11:15 Coffee Break & Poster Tour

10:40-11:10 Satellite Symposium **ASTRAZENECA**

11:15-12:45 ■ **UROPATHOLOGY** Working Group
■ **HEAD AND NECK PATHOLOGY** Working Group

12:45-14:00 Lunch & Poster Tour

13:20-13:50 Satellite Symposium **BMS**

14:00-15:30 ■ **HAEMATOPATHOLOGY** Working group
■ **NEUROPATHOLOGY** Working Group

15:30-16:15 Coffee Break & Poster Tour

15:40-16:10 Satellite Symposium **MENARINI STEMLINE**

16:15-17:30 ■ **BREAST PATHOLOGY** Working Group
■ **DERMATOPATHOLOGY** Working Group

18:00-19:00 ■ KEYNOTE LECTURE:
DIGITAL PATHOLOGY & MACHINE LEARNING
AI in pathology (present & future)

19:00-19:30 Cocktail Reception

19:30-23:00 Dinner

SATURDAY 05/10

■ ROYAL 1
■ ROYAL 2 & 3

08.00-09.00 WELCOME

09.00-10.30 ■ CYTOPATHOLOGY
■ YOUNG PATHOLOGISTS SECTION

10:30-11:15 Coffee Break & Poster Tour

10:40-11:10 Satellite Symposium **GSK**

11:15-12:45 ■ CYTOPATHOLOGY
■ GASTROPATHOLOGY Working Group

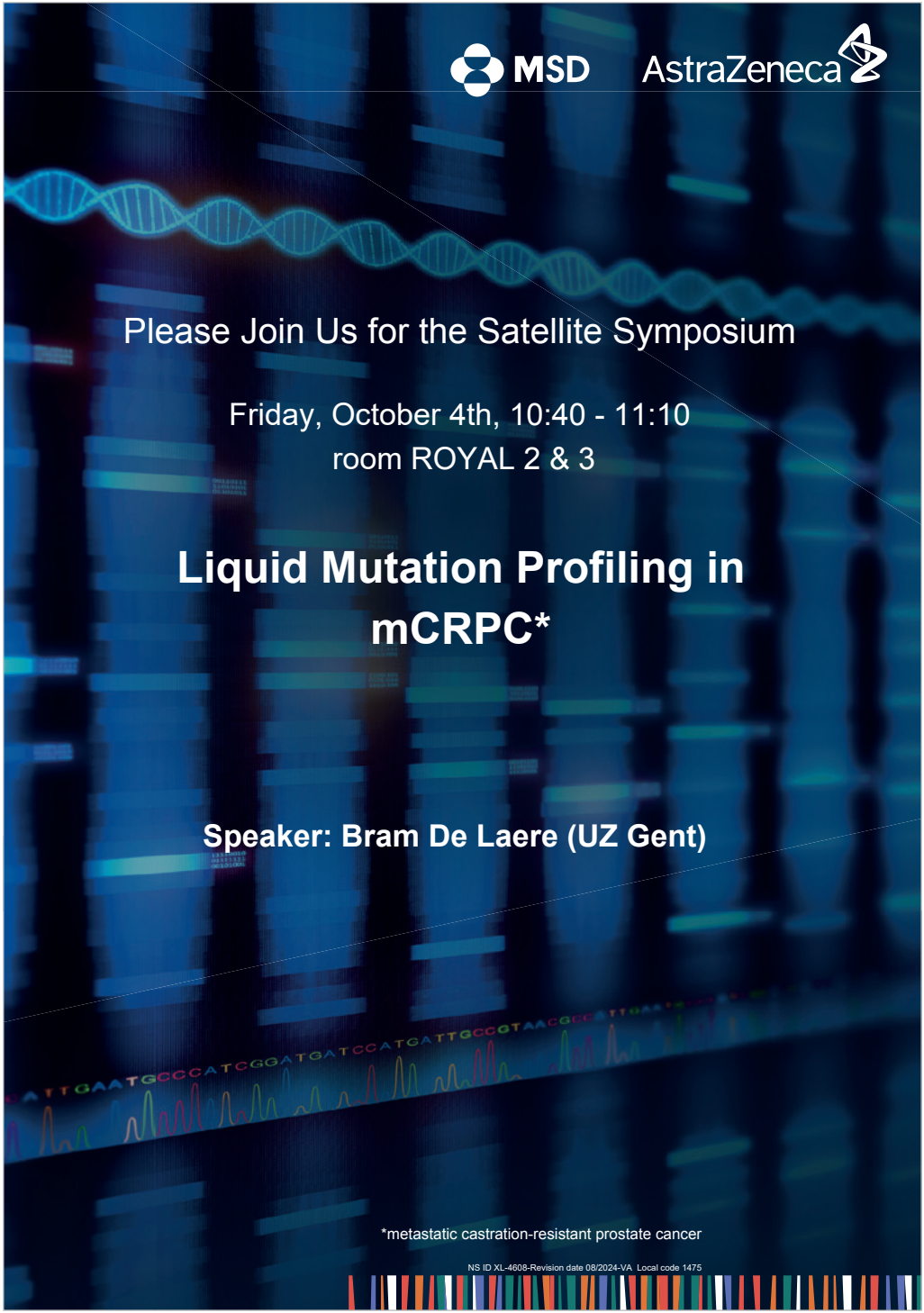
12:45-14:00 Lunch & Poster Tour

12:55-13:25 Satellite Symposium **STILLA**

13:25-13:50 ■ GENERAL ASSEMBLY BELGIAN SOCIETY OF PATHOLOGY

14:00-16:00 ■ DIGITAL PATHOLOGY & MACHINE LEARNING Working Group
AI in skin pathology Ethical and juridical aspects of AI and what it means for being a good doctor

16:00-16:15 Awards Ceremony
Closing Ceremony BWP 2024


MSD
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Please Join Us for the Satellite Symposium
Friday, October 4th, 10:40 - 11:10
room ROYAL 2 & 3
Liquid Mutation Profiling in mCRPC*
Speaker: Bram De Laere (UZ Gent)
*metastatic castration-resistant prostate cancer
NS ID XL-4608-Revision date 08/2024-VA Local code 1475

08:00-09:00 WELCOME

ROYAL 1

09:00-10:30 **SURGICAL PATHOLOGY**
Moderator: Philippe Delvenne (CHU Liège)

09:00-09:45 • INVITED LECTURE:
Debunking myths in immunohistochemistry (IHC) and what this means for everyday pathology practice; evolution of IHC in the era of precision medicine.
Emina TORLAKOVIC (Toronto, Canada)

09:45-10:30 • INVITED LECTURE:
Immunohistochemistry for pharmacodiagnostic testing in lung Cancer.
Jan VON DER THÜSEN (Rotterdam, the Netherlands)

ROYAL 2 & 3

09:00-10:30 **MOLECULAR PATHOLOGY WORKING GROUP**
Moderators: Nicky D'Haene (HUB, ULB),
Franceska Dedeurwaerdere (AZ Delta)

09:00-09:40 • INVITED LECTURE: **HRD testing.**
Hilde BREMS (KU Leuven)

09:40-10:20 • CASE STUDY: **Members of the working group**
Birgit Weynand (UZ Leuven), Isabelle Vanden Bempt (UZ Leuven)
Maria-Dolores Martin-Martinez (IPG), Koen Van de Vijver (UZ Gent)

10:20-10:30 • SELECTED ABSTRACT PRESENTATION:
PAX3-NCOA1 alveolar rhabdomyosarcoma: integrating clinical, histological, and genetic aspects.
François DEFAWE (CHU Liège)

10:30-11:15 COFFEE BREAK & **POSTER TOUR**

ROYAL 2 & 3

10:40-11:10 **Satellite Symposium ASTRAZENECA**
Liquid mutation profiling in mCRPC.
Bram DE LAERE (UZ Gent)

FRIDAY October 04
19.00-23.00

Cocktail Reception and Dinner
at Tangla Hotel

TANGLA
BRUSSELS

ROYAL 1

11:15-12:45 **UROPATHOLOGY WORKING GROUP**

Moderators: Gabriela Beniuga (IPG), Bart Lelie (AZ Zeno)

11:15-11:50 • INVITED LECTURE:
AI in prostate applications in routine and research or future.
Solene Florence KAMMERER-JACQUET (Rennes, France)

11:50-12:25 • INVITED LECTURE:
AI in bladder applications in routine and research or future.
Jacqueline FONTUGNE (Paris, France)

12:25-12:35 • SELECTED ABSTRACT PRESENTATION:
Insights in the genetic heterogeneity of concurrent renal cell carcinomas.
Annelies KERCKHOFS (UZ Antwerpen)

12:35-12:45 • SELECTED CASE:
A rare oncocytic renal tumor: pitfall on biopsy, difficulty for AI and help of molecular testing.
Katleen Desmedt (Labo CMP), Maria-Dolores Martin Martinez (IPG)

ROYAL 2 & 3

11:15-12:45 **HEAD AND NECK PATHOLOGY WORKING GROUP**

Moderators: Senada Koljenović (UZ Antwerpen),
Esther Hauben (KU Leuven)

11:15-11:40 • INVITED LECTURE:
Analyzing Morphological Alterations in Oral Epithelial Dysplasia for Enhanced Diagnostic Accuracy.
Merva SOLUK TEKKESIN (Istanbul, Turkey)

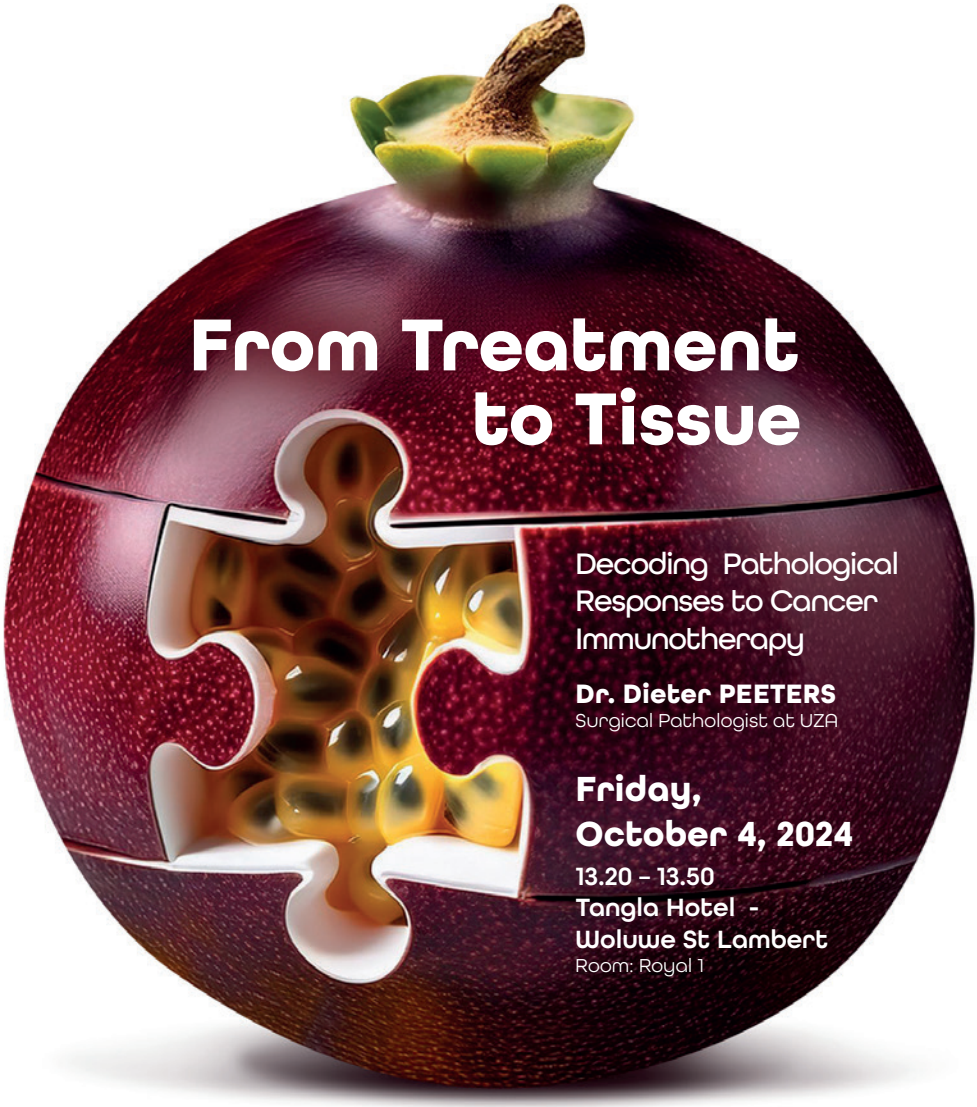
11:40-12:05 • INVITED LECTURE:
Exploring the Oral dysplasia microenvironment as a source of novel predictive markers.
Keith HUNTER (Liverpool, UK)

12:05-12:30 • INVITED LECTURE:
Computational Analysis of Oral Epithelial Dysplasia.
Ali KHURRAM (Sheffield, UK)

12:35-12:45 • SELECTED ABSTRACT PRESENTATION:
DICER1 mutations define the landscape of poorly differentiated thyroid carcinoma in children.
Jonas VER BERNE (AZ Sint-Jan, Brugge)

12:45-14:00 LUNCH & **POSTER TOUR**

BMS
Satellite Symposium



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BWP Belgian Week of Pathology

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ROYAL 1

13:20-13:50 **Satellite Symposium BMS**
From Treatment to Tissue:
Decoding Pathological Responses to Cancer Immunotherapy.
Dieter PEETERS (UZ Antwerpen / CellCarta)

ROYAL 1

14:00-15:30 **HEMATOPATHOLOGY WORKING GROUP**
Moderator: Pascale De Paepe (AZ Sint-Jan, Brugge)

14:00-14:40 • INVITED LECTURE: **T-cell lymhomas.**
Laurence DE LEVAL (Lausanne, Switzerland)

14:40-15:20 • CASE STUDY: **Digital Microscopy Session Members.**
Joan SOMJA (CHU Liège), Patrick COLLINS (CHU Liège),
Kristof COKELAERE (Yperman Ziekenhuis)

15:20-15:30 • SELECTED ABSTRACT PRESENTATION:
ATTR amyloidosis shows a distinct cardiac proteomic profile.
Annelore VANDENDRIESSCHE (UZ Gent)

ROYAL 2 & 3

14:00-15:30 **NEUROPATHOLOGY WORKING GROUP**
Moderators: Dietmar Thal (KU Leuven),
Laetitia Lebrun (HUB Brussels)

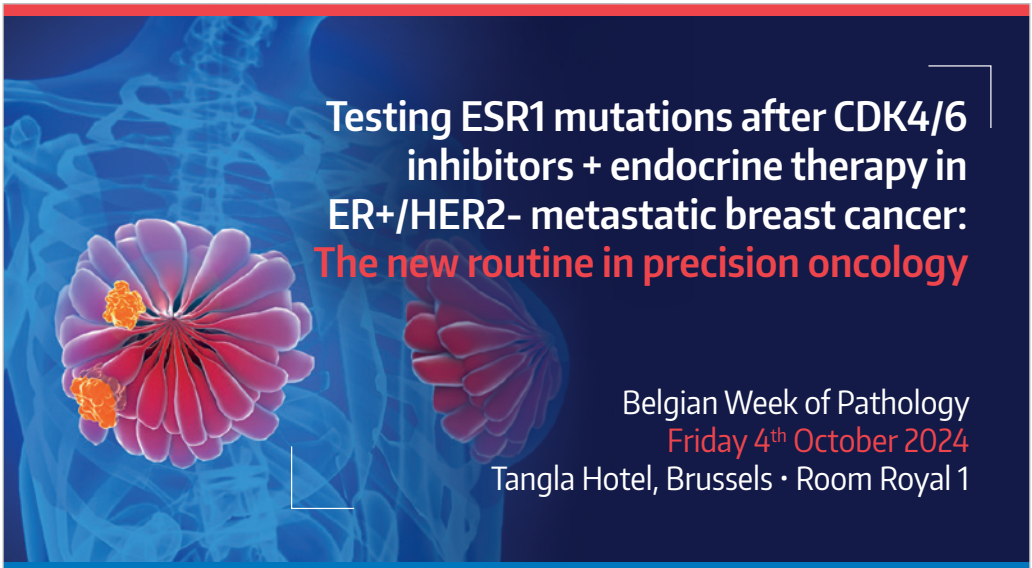
14:00-14:30 • INVITED LECTURE: **Pathological diagnosis of diffuse gliomas.**
Franck BIELLE (Paris, France)

14:30-15:00 • INVITED LECTURE: **Pathological diagnosis of meningiomas.**
Felix SAHM (Heidelberg, Germany)

15:00-15:20 • CASE STUDY: **Neuropathology Working Group:**
Laetitia Lebrun (ULB Brussels), Fleur Cordier (UZ Gent),
Melek Ahmed (UZ Antwerpen)

15:20-15:30 • SELECTED ABSTRACT PRESENTATION:
A Rare Case of Neuroepithelial Tumor with PATZ1 fusion:
A Novel Entity and Literature Review.
Hanane RAIS (Marrakech, Morocco)

15:30-16:15 COFFEE BREAK & **POSTER TOUR**



Testing ESR1 mutations after CDK4/6 inhibitors + endocrine therapy in ER+/HER2- metastatic breast cancer: The new routine in precision oncology

Belgian Week of Pathology
Friday 4th October 2024
Tangla Hotel, Brussels · Room Royal 1

Prof. Cédric Van Marcke
Cliniques universitaires Saint-Luc, Brussels

Prof. Nicky D'Haene
Erasme/Institut Jules Bordet, Brussels

Prof. Giuseppe Floris
UZ Leuven, Leuven

Agenda: 15:40 > 16:10

Welcome by the chairs	**Prof. Nicky D'Haene** *Erasme/Institut Jules Bordet, Brussels* **Prof. Giuseppe Floris** *UZ Leuven, Leuven*
ESR1 as a new biomarker in ER+/HER2- mBC and roadmap for optimal testing	**Prof. Cédric Van Marcke** *Cliniques universitaires Saint-Luc, Brussels*
Experts discussion and Q&A	**All**

We look forward to seeing you there!

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ROYAL 1

15:40-16:10 **Satellite Symposium MENARINI STEMLINE**
Testing ESR1 mutationsafter treatmentwith CDK4/6 inhibitors endocrine therapy in ER+/HER2 metastic breast cancer: The new routine in precision oncology.
Moderators: Nicky D'Haene (ULB Bordet), Giuseppe Floris (UZ Leuven)
Speaker: Cedric Van Marcke (UCL Saint-Luc)

16:15-17:30 **BREAST PATHOLOGY WORKING GROUP**
Moderators: Mieke Van Bockstal (CUSL/UCLouvain),
Kathleen Lambein (AZ Sint Lucas, Gent)
Topic of the session: Quality and quantification of immunohistochemistry in breast pathology.

16:15-16:55 • INVITED LECTURE: **Quantitative measurement of protein on immunohistochemical Slides.**
David L. RIMM (New Haven, USA)

16:55-17:35 • INVITED LECTURE:
Quality control of immunohistochemistry for breast pathology.
Emina TORLAKOVIC (Toronto, Canada)

17:35-17:45 • SELECTED ABSTRACT PRESENTATION:
Next-generation sequencing can be helpful in the diagnosis of phyllodes tumors.
Nicolas DECONNINCK (CUSL/UCLouvain)

ROYAL 2 & 3

16:15-17:30 **DERMATOPATHOLOGY WORKING GROUP**
Moderator: Vasiliki Siozopoulou (CUSL/UCLouvain)

16:15-17:00 • INVITED LECTURE: **Latest advances in molecular classification of melanocytic Lesions.**
Willeke BLOKX (Utrecht, the Netherlands)

17:00-17:30 • INVITED LECTURE:
Real life experience of molecular testing in melanocytic lesions.
Francesca BOSISIO (KU Leuven)and Isabelle VAN DEN BEMPT (KU Leuven)

ROYAL 1

18:00-19:00 **KEYNOTE LECTURE: DIGITAL PATHOLOGY & MACHINE LEARNING**
Moderator: Romaric Croes (Sint-Blasius, Dendermonde)

• LECTURE: **AI in pathology, present and future.**
Nasir RAJPOOT (Warwick University, U.K.)

19:00-19:30 COCKTAIL RECEPTION

19:30-23:00 DINNER

SATELLITE SYMPOSIUM GSK

ENDOMETRIAL CANCER:
ADVANCING DIAGNOSIS AND CLINICAL WORK UP — GUIDELINES AND CHALLENGES

CECILE COLPAERT MD, PHD
Pathologist AZ Turnhout/ consultant pathologist UZ Leuven
Secretary of the GYN working group of the BSP

SATURDAY 5 OCT. 2024
10:40 | 11:10
TANGLA HOTEL
WOLUWE ST LAMBERT
ROOM: ROYAL 2 & 3

NP-BE-DST-JRNA-240002 – September 2024
RE: GlaxoSmithKline Pharmaceuticals s.a./n.v. Av. Fleming 20, 1300 Wavre Belgium

08:00-09:00 **WELCOME**

ROYAL 1

09:00-10:30 **CYTOPATHOLOGY**

Moderators: Shaira Sahebali (VUB),
Claire Bourgain (Imelda Ziekenhuis)

9:00-9:45 • INVITED LECTURE:
Cervical Cancer Screening: Signposts for a Changing World.
Kristof COKELAERE (Yperman Ziekenhuis)

9:45-10:30 • INVITED LECTURE:
Long Term Significance of Benign Endometrial Cells Identified on Routine Cervical Cytology in Women Aged More or Equal to 45 Years.
Stef COSYNS (UZ Brussel)

ROYAL 2 & 3

09:00-10:30 **YOUNG PATHOLOGISTS SECTION**

Moderators: Leon Van Kempen (UZ Antwerpen),
Klaas De Corte (UZ Antwerpen)

9:00-9:30 • INVITED LECTURE: **Molecular pathology of the NSCLC.**
Jan VON DER THÜSEN (Rotterdam, the Netherlands)

9:30-10:30 • CASE STUDY: **by Members of the Young Pathologists Society.**
Eric Davenne (CHU Liège), Arno Vanstapel (KU Leuven),
Maïte De Roeck (UZ Antwerpen)

10:30-11:15 **COFFEE BREAK & POSTER TOUR**

ROYAL 2 & 3

10:40-11:10 **Satellite Symposium GSK**

Endometrial Cancer: Advancing diagnosis and clinical work up – Guidelines and Challenges.
Cécile COLPAERT (UZ Leuven)

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ROYAL 1

11:15-12:45 **CYTOPATHOLOGY**

Moderators: Shaira Sahebali (VUB),
Claire Bourgain (Imelda Ziekenhuis)

11:15-12:30 • CASE DISCUSSION: **Members of the Working Group**
Birgit Weynand (KU Leuven), L. Verlinden (UZ Brussel),
Koen Van de Vijver (UZ Gent), Claire Bourgain (Imelda)

12:30-12:45 • SELECTED ABSTRACT PRESENTATION
The influence of high-intensity and moderate-intensity endurance exercise training on the acute phase of murine coxsackievirus B3 myocarditis.
Manon VAN HECKE (UZ Leuven)

ROYAL 2 & 3

11:15-12:45 **GASTROINTESTINAL PATHOLOGY WORKING GROUP**

Moderators: Ann Driessen (UZ Antwerpen),
Pamela Baldin (CUSL / UCLouvain)

11:15-11:25 • SELECTED ABSTRACT PRESENTATION
DICER1–associated malignancies in childhood: diagnostic clues, challenges, outcomes and implications.
Louis DELSUPEHE (UZ Antwerpen)

11:25-11:50 • INVITED LECTURE:
Benign diseases of the gallbladder and the extrahepatic bile Ducts.
Laurine VERSET (H.U.B, Brussels)

11:4500-12:15 • INVITED LECTURE:
Tumours of the gallbladder and the extrahepatic bile ducts.
Pieter DEMETTER (Cerba Path, Division CMP, Brussels)

12:15-12:45 • INVITED LECTURE:
Origin and histopathological features of the ampullary tumours.
Volcan ADSAY (Istanbul, Turkey)

12:45-14:00 **LUNCH & POSTER TOUR**

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October 5, 2024 I 12:55 PM - 01:25 PM

ROYAL 2-3, Tangla Hotel -
Woluwe-Saint-Lambert, Brussels, Belgium

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Speaker
Dr. Laras Pitayu, Stilla Technologies

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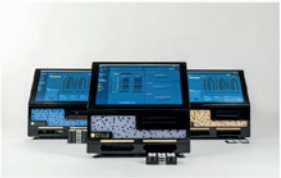

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ROYAL 1

12:55-13:25 **Satellite Symposium STILLA**

Simplifying the Precision Medicine Journey in Rapidly Evolving Biomarker Testing.

Laras PITAYU (STILLA Technologies)

ROYAL 2 & 3

13:25-13:50 GENERAL ASSEMBLY BELGIAN SOCIETY OF PATHOLOGY

ROYAL 1

14:00-16:00 DIGITAL PATHOLOGY & MACHINE LEARNING WORKING GROUP

Moderators: Amélie Dendooven (UZ Gent), Ivan Théate (CHU Namur)

14:00-14:35 • INVITED LECTURE: **AI in skin pathology.**
Emily CLARKE (Leeds, U.K.)

14:35-15:05 • INVITED LECTURE: **Sustainability aspects of AI (together with Eco transformation in Belgian path Labs group led by Ivan Théate).**
Peter BOOR (Aachen, Germany)

15:05-15:30 • INVITED LECTURE:
Implementation of AI in the lab: a clinical and practical perspective including LIS Integration.
Frederik DEMAN (ZAS Antwerp)

15:30-16:00 • INVITED LECTURE:
Vision for structured reporting in Belgium to enhance data flows.
Harlinde DE SCHUTTER (Cancer Registry)

ROYAL 1

16:00-16:15 AWARDS CEREMONY

- Best Oral Presentation: Research
- Best Oral Presentation: Case report
- Best e-Poster: Research
- Best e-Poster: Case report

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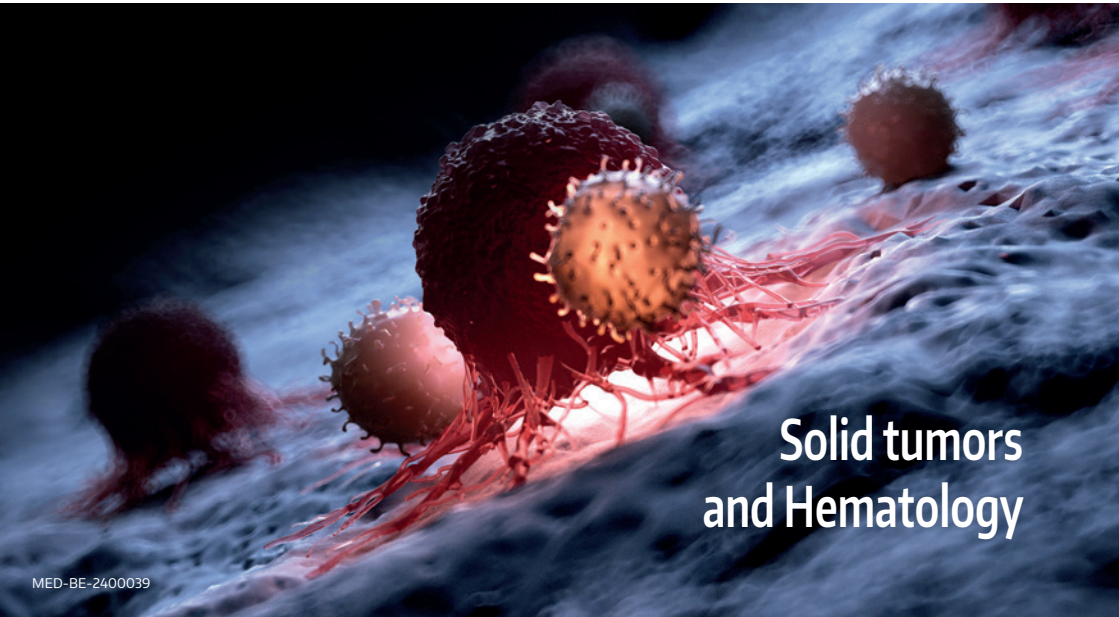

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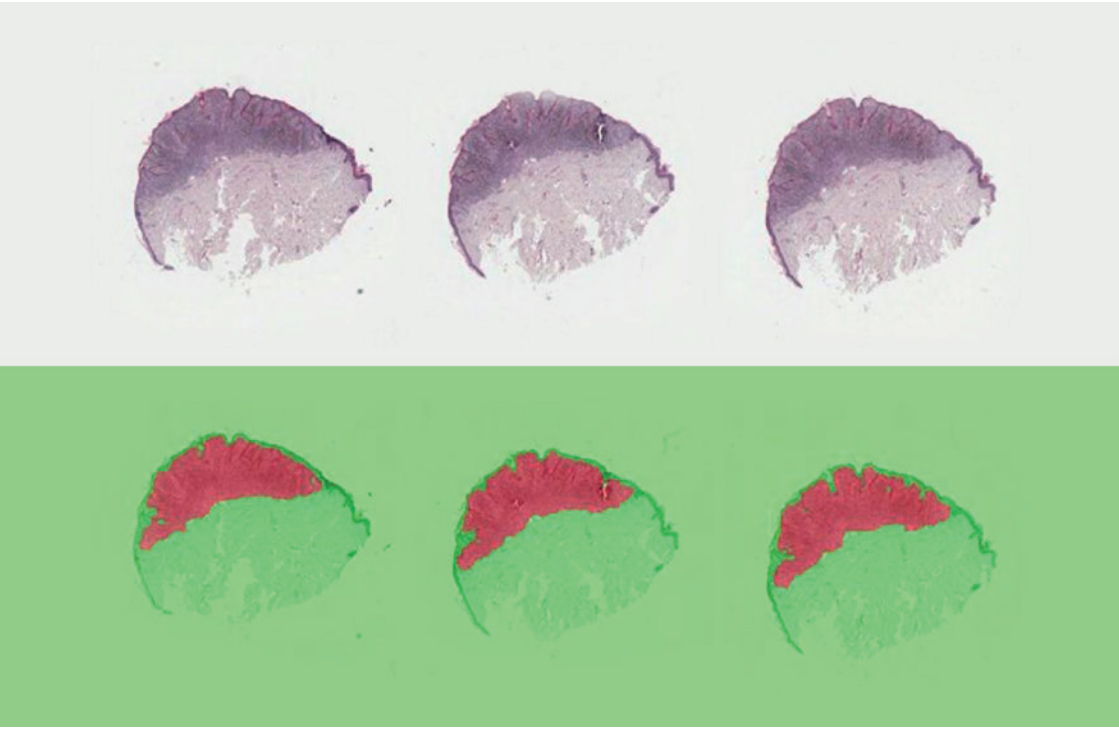

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OF 01

PAX3-NCOA1 ALVEOLAR RHABDOMYOSARCOMA: INTEGRATING CLINICAL, HISTOLOGICAL, AND GENETIC ASPECTS.

Defawe François[1], Collins Patrick[1], Gennigens Christine[2], Celine Lete[3], Lifrange Fréderic[1]

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3 Department of Genetics, Centre Hospitalier Universitaire de Liège/ULiège, Liège, Belgium

Background

We present a case of alveolar rhabdomyosarcoma of the ethmoid sinus with PAX3-NCOA1 rearrangement in a patient with a childhood Wilms' tumor. Recent studies identified a sinonasal sarcoma with the same rearrangement, highlighting morphology's importance.

Materials, methods and results

A 20-year-old female presented with an ethmoidal sinus mass in the context of a history of childhood Wilms' tumor. Morphological analysis revealed a tumor with round, nested cells. Immunohistochemical studies demonstrated intense and diffuse positivity for myogenin and MyoD1, multifocal positivity for desmin, while WT1 showed cytoplasmic staining only. The diagnosis of alveolar rhabdomyosarcoma was suggested. Initial molecular biology testing did not detect FOXO1 rearrangement, but a PAX3-NCOA1 fusion was identified through Optical Genome Mapping.

Moreover, a new type of sarcoma, with a preference for sinus cavities and exhibiting similar molecular alterations, has recently been described. This underscores the necessity of a comprehensive immunomorphological examination, rather than relying solely on molecular testing.

Additionally, the co-occurrence of a Wilms' tumor and an alveolar rhabdomyosarcoma with this rare mutation might suggest a specific genetic syndrome.

Conclusions

We present a case of alveolar rhabdomyosarcoma with a rare mutation that required extensive molecular investigations in a patient with a unique oncological context. Molecular biology results alone cannot provide a definitive diagnosis, considering recent advances and the number of tumors with similar mutations. A new type of sinonasal sarcoma has been described with the same genetic alteration.

OF 02

INSIGHTS IN THE GENETIC HETEROGENEITY OF CONCURRENT RENAL CELL CARCINOMAS.

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Background

Recent advancements in genetic research have significantly enhanced the understanding of renal cell carcinoma (RCC), now recognized as a heterogeneous group with distinct genetic features. This case report aims to illustrate its genetic diversity and implications for diagnosis and treatment.

Materials and methods

A middle-aged man presented with an incidental finding of RCC in the right kidney on computer tomography (CT) performed for a persistent cough. Comprehensive radiological and blood tests were conducted, followed by a total right nephrectomy. Histological examination showed a concurrent appearance of two manifestly different tumors in the kidney. Molecular analyses, including SNP array and next-generation sequencing (NGS), were conducted to identify genetic mutations and assess clonality.

Results

The nephrectomy identified two distinct tumors: a clear cell RCC (ISUP/WHO grade 3, pT1b) and a papillary RCC (ISUP/WHO grade 2, pT1a). Molecular analysis confirmed VHL, TP53, and SETD2 mutations in the clear cell RCC, while no mutations were detected in the papillary RCC. The SNP array revealed significant chromosomal differences, suggesting the tumors were not clonally related. Follow-up imaging detected an adrenal metastasis from the clear cell RCC. The metastasis showed a VHL and SETD2 mutation, which undoubtedly proved to be derived from the clear cell RCC.

Conclusions

This case underscores the genetic heterogeneity of RCC and the importance of molecular profiling in guiding diagnosis and treatment. The distinct genetic profiles of the two tumors suggest they are not clonally related, highlighting the complexity of RCC and the need for individualized therapeutic approaches.

OF 03

DICER1 MUTATIONS DEFINE THE LANDSCAPE OF POORLY DIFFERENTIATED THYROID CARCINOMA IN CHILDREN.

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2 Department of Endocrinology, AZ St. Jan, Brugge, Belgium

Background

Poorly differentiated thyroid carcinomas (PDTCs) are rare, comprising about 1% of thyroid neoplasms, with distinct histological features. Classified as high-grade follicular cell-derived non-anaplastic carcinomas, PDTCs' prognosis lies between well-differentiated and anaplastic carcinomas. In individuals under 25 years old, PDTCs with specific DICER1 mutations have been observed, which is distinct from mutations in adult PDTCs like BRAF and RAS. We report a case of a 19-year-old female with PDTC carrying somatic and germline DICER1 mutations and review DICER1's role in pediatric PDTC.

Case report

A 19-year-old female underwent a total thyroidectomy for a Bethesda class IV lesion. The specimen showed a multinodular thyroid gland with the presence of an irregular lesion. Histological sections revealed a partially encapsulated nodule with a solid growth pattern, large and slightly irregular nuclei, and a high mitotic count (18 per 2 mm2). Capsular and vascular invasion were evident. Thyroglobulin staining showed a distinctive dot-like pattern. A final diagnosis of PDTC was made based on fulfilment of the WHO 2022 and Turin criteria. Next-Generation Sequencing identified two likely pathogenic DICER1 variants (p.D1709E and p.S304*), while no variants were found in the BRAF, RAS, RET, TERT, or TP53 genes. Germline testing revealed variant p.S304* being a germline variant, establishing the diagnosis of "DICER1 tumor predisposition syndrome".

Discussion

Our case report adds to the limited body of evidence focused on pediatric/young adult PDTC underscoring the unique molecular nature compared with their adult counterparts. The identified cases in the literature exhibit specific DICER1 mutations, mainly in the absence of traditional driver mutations. While substantial follow-up data is lacking, pediatric/young adult PDTC may be associated with a high mortality rate of 42%, contrary to the indolent course of other DICER1-associated neoplasms. Finally, the diagnosis of pediatric/young adult PDTC should trigger the investigation into a possible germline DICER1 mutation.

OF 04

ATTR AMYLOIDOSIS SHOWS A DISTINCT CARDIAC PROTEOMIC PROFILE.

Annelore Vandendriessche[1]*, Teresa M Maia[2], Delphi Van Haver D[2], Jo Van Dorpe[3], Amélie Dendooven[3], Simon Devos[2], Francis Impens[2]

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2 VIB Center for Medical Biotechnology, VIB Proteomics Core, Department of Biomolecular Medicine, Ghent University, Ghent, Belgium,
3 Department of Pathology, Ghent University Hospital, Ghent, Belgium

Background

Cardiac ATTR amyloidosis is caused by misfolded transthyretin accumulating in the heart. Mass spectrometry has advanced diagnostics through sensitive and accurate typing of the origin protein. However, beyond typing, MS-based proteomics reveal the amyloid-associated proteome, providing insights into disease mechanisms.

Materials and methods

This study, part of a larger amyloid typing project, aims to elucidate the amyloid-associated proteome in endomyocardial biopsies using MS-based proteomics. We selected 6 cardiac ATTR and 10 control (normal transplant) biopsies from Ghent University Hospital. Histological analysis confirmed amyloid in ATTR cases and absence in controls. Liquid chromatography-tandem mass spectrometry (LC-MS/MS) was performed on whole tissue sections and protein abundancies were measured by label-free quantification (LFQ). Differential expression analysis was conducted comparing protein intensities in ATTR and control groups.

Results

Out of 3,824 quantified proteins, 350 were significantly upregulated and 48 were significantly downregulated in ATTR samples. Presence of amyloid signature proteins and high abundance of TTR confirmed ATTR diagnosis. Our data showed significant upregulation of components of the complement system (C1Q subunits A/B/C, C2, C6, C7, C8 A/B/G chains, C9, C1R, among others) and coagulation pathways (factors X, XI, and XII and Kallikrein B1), among other observations.

Conclusions

This study highlights proteomic alterations in cardiac tissue affected by ATTR amyloidosis. The marked upregulation of components in the complement and coagulation pathways suggests a pronounced inflammatory response and potential involvement in disease pathology. These findings provide deeper insights into the molecular mechanisms underlying cardiac damage in ATTR amyloidosis.

OF 05

A RARE CASE OF NEUROEPITHELIAL TUMOR WITH PATZ1 FUSION: A NOVEL ENTITY AND LITERATURE REVIEW.

Hanane Rais[1], Chafia Benallal[1], Corinne Bouvier[2], Youssef Rochdi[3], Abdelaziz raji[3], Meriem El Baz[4], Jamila Houdzi[4], Bérengère Dadone Montaudie[5]

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4 Department of pediatric oncology, University Hospital Center Mohammed VI Marrakech, Morocco.
5 Department of Pathology, Centre Hospitalier Universitaire Pasteur, Nice, FRANCE

Background

Neuroepithelial tumors are a diverse group of brain tumors that arise from the neuroepithelial cells of the central nervous system. Recent studies have identified a novel molecular subtype of neuroepithelial tumors characterized by the presence of PATZ fusion. The PATZ1 gene plays a role in transcriptional regulation and cell differentiation. When it fuses with other genes, particularly MN1, EWSR1, it gives rise to neuroepithelial tumors with specific genetic alterations.

Materials and methods

This is a case of a 13-year-old child with a tumor in the petrous bone that has been present for 3 years.

Results

The child experienced symptoms such as intracranial hypertension syndrome, otorrhea, ear pain, hearing loss, and facial paralysis. Initially diagnosed as chondrosarcoma, the child underwent cerebral surgery in 2020 followed by radiotherapy. However, subsequent evaluations suggested the possibility of a primitive neuroectodermal tumor (PNET). A biopsy of the external auditory canal in 2022 revealed an undifferentiated malignant tumor, potentially a high-grade solitary fibrous tumor. A brain biopsy in 2023 confirmed the diagnosis of PNET. A recent biopsy conducted in July 2023 showed tumor proliferation consisting of spindle and round cells with atypical features and a high nuclear-cytoplasmic ratio. Immunohistochemical analysis did not show expression with various markers (desmin, myo-D1, myogenin, SOX9, STAT6, SS18-SYT, CD99, EMA, S100 protein, BCOR, NKX2.2, AE1/AE3. GFAP, Olig2 an HMB45) except for diffuse nuclear immunolabeling of SOX10. Additionally, the fusion of the MN1 :: PATZ gene was detected through RNA sequencing.

Conclusions

Neuroepithelial tumors with PATZ1 fusion are a rare subtype of CNS tumors characterized by specific genetic alterations. The fusion of the PATZ1 gene with other genes, such as MN1 ; EWSR1, leads to distinct clinicopathological features. Further research is needed to improve our understanding of these tumors and develop targeted treatment strategies

Keywords: Neuroepithelial tumor; PATZ1; EWSR1; MN1; Fusion; RNA Sequencing.

OF 06

NEXT-GENERATION SEQUENCING CAN BE HELPFUL IN THE DIAGNOSIS OF PHYLLODES TUMORS.

Nicolas Deconninck[1], Maud Vassilieff[2], Michaela-Felicia Topciu[2], Mieke Van Bockstal[1,3]

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Background and objective

Fibroepithelial lesions can be difficult to diagnose at the biopsy level. The differentiation between fibroadenomas and benign phyllodes tumors can be particularly challenging. We present a case wherein the clinical/radiological and pathological correlation was essential.

Materials and methods

A 41-years-old woman without prior oncologic history was known with a palpable breast mass for more than two years. In 2022, she had undergone a biopsy, rendering the diagnosis of a fibroadenoma, around 3 cm in size. Because the mass suddenly started to increase in size, up to 9 cm in only a few months' time, mammography, ultrasound and a biopsy were repeated.

Results

The recent biopsy showed a fibroepithelial lesion with extensive normocellular myxoid stroma without atypia, in the absence of cylinder fragmentation potentially hinting at a leaf-like architecture. Despite the histopathological image of a myxoid fibroadenoma, a benign phyllodes tumor was suspected due to the size of the nodule and its rapid growth. The patient underwent a lumpectomy. A 9cm-mass without apparent leaflike architecture was extensively sampled. The tumor was poorly circumscribed, showing diffuse infiltration of the surrounding fat. Despite this invasive growth, classic histopathological characteristics of a phyllodes tumor were lacking.
Because of this ambiguous morphology, next-generation sequencing was performed, identifying a pathogenic mutation in the TERT promoter (c.-124C>T), which is frequently observed in phyllodes tumors. A pathogenic EGFR mutation (C.866C>T;p.(A289V)) was also identified. This mutation has previously been described in malignant phyllodes tumors.

Conclusions

The biopsy-diagnosis of fibroepithelial tumors can be challenging due to the limited amount of tissue and ambiguous morphology. NGS can be helpful, as mutations in the TERT promoter point towards a phyllodes tumor, which is illustrated by this case. We initially considered a benign phyllodes tumor, but the pathogenic EGFR mutation and infiltrative morphology are suggestive of a borderline phyllodes tumor.

OF 07

THE INFLUENCE OF HIGH-INTENSITY AND MODERATE-INTENSITY ENDURANCE EXERCISE TRAINING ON THE ACUTE PHASE OF MURINE COXSACKIEVIRUS B3 MYOCARDITIS.

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*Shared first authorship

Background

Myocarditis is an inflammatory disease of the myocardium, its leading cause being viral infection. Historical murine studies demonstrated that exercise worsened the acute course of viral myocarditis. We evaluate the impact of different intensity training protocols on this acute phase.

Materials and methods

Using digital pathology, myocardial hypertrophy, inflammation and fibrosis of both infected and non-infected, and intensely trained (HiEEX) or moderately trained (ModEEX) mice (n=70) were assessed. After euthanization one week post-inoculation, the heart of each mouse was excised and FFPE blocks were made. Mid-ventricular cross-sections were cut and stained with HE, PSR and an elaborate panel of immunohistochemical markers to characterize the inflammatory infiltrate. The sections were digitalized and analysed using QuPath. These quantitative results were validated with conventional, manual methods.

Results

A digital cardiac hypertrophy assessment was performed revealing significant hypertrophy following training in ModEEX mice but not in HiEEX mice.

Digital quantification of the relative area of myocardial inflammation showed a median value of 2,040% in the HiEEX group compared to ModEEX (1,215%). This was reflected in our manual scoring, since the most severe score was attributed to 90% of HiEEX mice, and to just 53.3% of ModEEX mice. The digital average total cell count in the HiEEX lesions was only 7483 compared to 9088 in the ModEEX lesions, and the relative counts of individual inflammatory cell types revealed a shift towards pro-inflammatory cell types in the HiEEX group.
Both digital quantification and manual scoring confirmed absence of pathological fibrosis.

Conclusions

High-intensity treadmill running during viral myocarditis elicits an altered immune response with less inflammatory cells present in slightly larger lesions with more necrosis, and a relatively higher count of pro-inflammatory, Arg1-positive macrophages and cytotoxic T-cells at one week post-infection. Moderate-intensity treadmill running however does not significantly impact myocardial inflammation in the early course of disease.

OF 08

DICER1–ASSOCIATED MALIGNANCIES IN CHILDHOOD: DIAGNOSTIC CLUES, CHALLENGES, OUTCOMES AND IMPLICATIONS.

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3 Department of Pediatrics, University Hospital Antwerp, University Antwerp, Edegem, Belgium

Background

DICER1-associated malignancies were recently defined as a subclass of tumors and data is still fragmented. Tumor presentation is heterogenous with up to 70% of patients harboring germline DICER1 gene mutations. While metastatic central nervous system (CNS) disease is well documented, primary CNS manifestations are exceedingly rare and confer a poor prognosis.
Materials and methods
We present two pediatric cases of DICER1-associated malignancies with CNS involvement. We include morphologic and immunohistochemical features typical of similar malignant DICER1-associated tumors and correlate findings with neurological imaging. Furthermore, molecular profiling (targeted enrichment NGS) and germline WGS data are described. Tumor methylation profiling (Infinium Methylation EPIC v2.0 Kit) was performed and the Heidelberg Brain Tumor Classifier v12.8 was utilized to assess methylation class and calibration score.

Results

Patient one is a 2-year-old who presented with respiratory symptoms. Imaging revealed an intrathoracic mass confirmed on radiographic and histopathology findings as a pleuropulmonary blastoma. WGS analysis performed on normal tissue demonstrated a deleterious germline mutation of the DICER1 gene. Despite chemotherapy the disease relapsed with CNS involvement.
Patient two is a 4-year-old presented with decompensated neurological symptoms. Neurological imaging was suggestive of an intracranial malignancy. Based on radiographic and histopathological findings the diagnosis of a DICER1-associated intracranial sarcoma was confirmed. NGS analysis revealed a pathogenic hotspot mutation in the DICER1 gene. In both cases tumor methylation profiling was performed on the brain lesions.

Conclusions

DICER1-associated tumors can pose a significant diagnostic challenge due to their rarity and diverse clinical presentation. DICER1-associated malignant CNS tumors are exceptionally rare. We describe the histomorphological characteristics, diagnostic clues, and radiographic findings of two such pediatric cases presenting with CNS lesions. DICER1 gene mutations were confirmed in both patients. Additionally, we discuss methylation array as a potentially valuable supplementary diagnostic tool in this setting.
Increased awareness of these lesions among pathologists may facilitate earlier recognition and prompt genetic counseling for predisposing germline mutations in affected families.

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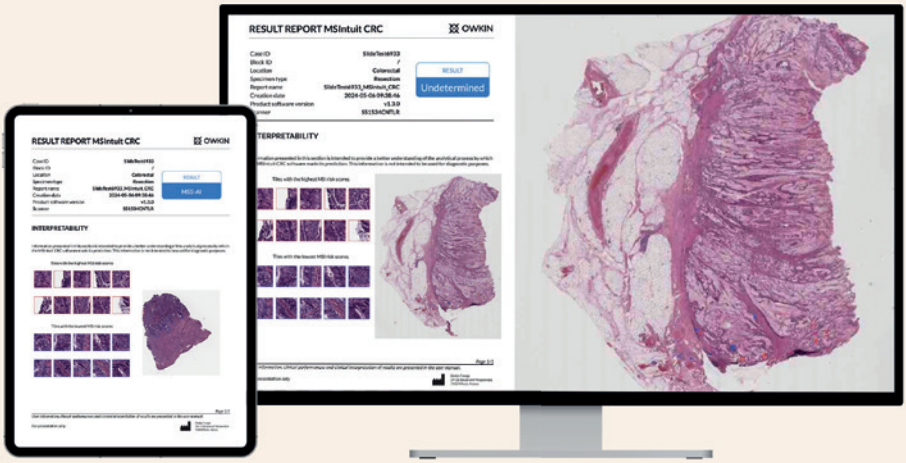

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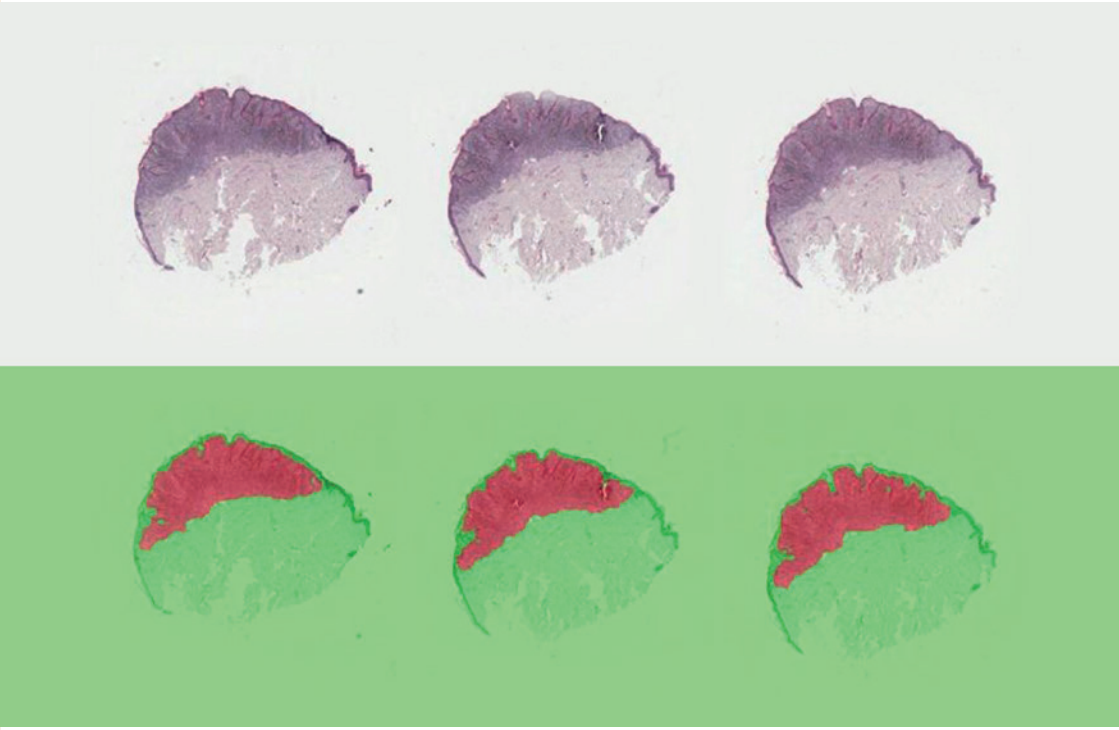

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Roche

P 01

A RARE CASE OF DEDIFFERENTIATED LIPOSARCOMA PRESENTING AS MASS IN THE SACRAL REGION.

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Background

Dedifferentiated liposarcoma (DDLPS) is an atypical lipomatous tumour / well differentiated liposarcoma (ALT/ WDLPS) showing progression, either in the primary or in a recurrence, to (usually non-lipogenic) sarcoma of variable histological grade. A well-differentiated component may not be identifiable. Most common site is the retroperitoneum, followed by the extremities (OMS soft tissue 2020). The sacral region is a rare localization. We report a case of 3 years girl who presented a sacral mass diagnostiqued as deffirentiated liposarcoma

Materials and methods

The case report discusses a 3-year-old child who had a sacral mass for three months. The MRI demonstrated a poorly defined neoplasm in sacral region with a moderately high signal intensity area on T1-weighted images.

Results

An incisional biopsy revealed fragmented fibrous material weighing 2g. Microscopic examination showed mesenchymal proliferation with spindle-shaped cells, abnormal mitoses, and moderate eosinophilic cytoplasm with prominent scattered pleomorphic cells and well-differentiated adipose tissue at the periphery. Immunohistochemistry indicated weak to moderate nuclear expression of MDM2 and moderate to strong nuclear expression of CDK4, supporting the diagnosis of Dedifferentiated Liposarcoma low grade according to histological grading system FNLCLCC in the sacral region.

Conclusions

Dedifferentiated liposarcoma is a rare and aggressive form of cancer that can occur in the sacral, It may be confirmed through histological examination, and it is important to differentiate it from other soft tissue tumors, such as myxoid and round cell liposarcoma, pleomorphic liposarcoma, and myolipoma, through comprehensive diagnostic evaluation.

P 02

POLYMORPHIC LYMPHOPROLIFERATIVE DISORDER IN AN IMMUNOCOMPROMISED PATIENT MIMICKING MULTIFOCAL GLIOBLASTOMA.

Marjolein Billen[1], Pierre Lefesvre[1], Jan Paquet[2], Stefanie Brock[1]

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2 Department of Neurosurgery, University Hospital Brussels (UZ Brussel), Brussels, Belgium

Background

Lymphoproliferative disorders (LPD) can present with B symptoms (fever, night sweats, weight loss) and typically affect the lymph nodes. Histologically, LPDs are characterized by heterogeneous infiltrates of lymphoid cells, predominantly of B-cell origin, displaying a full spectrum of B-cell differentiation. In immunocompromised patients, Epstein-Barr virus (EBV) frequently drives the disease. Restoration of immune function can potentially reverse LPD. If untreated, extranodal involvement may occur, affecting the gastrointestinal tract, liver, lungs, and central nervous system.

Case reports

A 61-year-old female presented with neurological symptoms and was found to have multiple PET-positive basofrontal lesions with ring contrast captation of MRI, suspicious for multifocal Glioblastoma, IDH-wild type (GBM). Her medical history included autoimmune hepatitis, for which she was treated with mycophenolate mofetil (CellCept). Brain biopsy of one of the lesions was performed.

Results

Histological examination of the lesions revealed a severe polymorphous inflammatory infiltrate composed of B-lymphocytes, T-lymphocytes, plasma cells, histiocytes, neutrophils and eosinophils. There was no significant atypia. In situ hybridization for EBV was positive. There were no signs of glioma. No microorganisms were detected on histology or microbiological testing of the biopsy tissue. Molecular analysis did not reveal any pathogenic mutations, except for a JAK2 mutation at very low allele frequency.

Conclusion

This case highlights the importance of histological examination in an immunocompromised patient presenting with neurological symptoms and MRI findings suggestive of multifocal glioblastoma. The presence of a polymorphous inflammatory infiltrate, along with Epstein-Barr virus (EBV) and the absence of glioma or microorganisms on histopathological evaluation led to the diagnosis of a polymorphous LPD.

P 03

CASE REPORT : AN EBV ASSOCIATED SMOOTH MUSCLE TUMOUR IN THE LUNG.

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Background

Epstein-Barr virus (EBV) is a common viral infection, that can be reactivated in immunocompromised individuals. EBV infection is associated with several entities, such as a spectrum of lymphoproliferative disorders, a subset of gastric carcinomas and nasopharyngeal carcinoma.

Materials and methods

In addition to the reported case we conducted a general search to find similar cases in the database of UZ Leuven using free text search terms ("EBV" and "smooth muscle tumour") in the patient report conclusions, from 2014 to 2024.

Results

A 11-year old boy was hospitalized in UZ Leuven for suspicion of post-transplant lymphoproliferative disorder (PTLD). He underwent a kidney transplantation at age of 2 years for congenital kidney disease. PET/CT showed hypermetabolic nodules in the right lung and liver (both slow growing over past 4 years), lymph nodes in the axilla and neck. A well circumscribed tumour was found in the lung composed of intersecting fascicles of spindled cells, which expressed smooth muscle antigen, desmin and caldesmon, and was positive on EBER in situ hybridisation. This is compatible with an EBV associated smooth muscle tumour.
We found another case in our database: a 25 years old female with a known history of PTLD and multiple liver lesions.

Conclusions

EBV associated smooth muscle tumours are rare neoplasms, that occur in immunocompromised patients. They can occur anywhere in the body and their biological behaviour is related to the degree of immunosuppression as they tend to regress when immunosuppression is discontinued.

P 04

REAL-LIFE EXPERIENCE WITH NEXT GENERATION SEQUENCING (NGS) IN CUTANEOUS MELANOCYTIC LESIONS.

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Background

A DNA-NGS panel of 117 genes involved in oncology is routinely used to detect mutations that occur in cutaneous melanocytic lesions. Our aim is to determine the most frequent mutations detected by this panel and to correlate with clinicopathological parameters.

Materials and methods

We retrospectively collected NGS molecular data from a panel of 117 genes in 87 cutaneous melanomas and 28 benign melanocytic lesions. We investigated the frequency of mutations and searched for genes in this panel that may be involved in melanoma progression. We collected all demographic and clinicopathologic data of the patients and correlated them with the NGS results.and clinicopathologic data of the patients and correlated them with the NGS results.

Results

In the melanoma samples, the most common mutations were in the TERTp (54%), BRAF (35.6%), NRAS (26.4%), CDKN2A (14.9%), TP53 (13.8%), and NF1 (11.5%) genes. The remaining genes had very low detection levels.

The coexistence of BRAF and TERTp-mutations was significantly associated with metastatic disease (p=0.004) compared to BRAF without TERTp. TERTp as a single marker also correlated with metastatic disease (p=0.007) compared to no-TERTp cases. Furthermore, BRAF mutation showed higher lymph node metastasis rates (p=0.023) compared to no-BRAF. Detection of TERTp mutations was higher when NGS was performed on metastatic samples compared to the primary lesions (p=0.021). TERTp, CDKN2A TP53 and NF1 mutations were not observed in benign cases.

Conclusions

With our extensive DNA-NGS analysis, the main mutations found in our melanoma set were BRAF,NRAS,NF1, CDKN2A and TP53. The last four were not found in the benign lesions. The rest of the genes in this panel do not show a statistically significant correlation, especially in melanomas. BRAF mutations, in correlation with TERTp, have a more aggressive course in our samples.

P 05

EXPLORING THE PATHOLOGY OF URACHAL MUCINOUS CYSTIC TUMOR WITH LOW MALIGNANT POTENTIAL (MCTLMP) / INTRAEPITHELIAL CYSTADENOCARCINOMA: CASE REPORT AND LITERATURE REVIEW.

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Background

Urachal mucinous cystic neoplasms (UCMN) are newly recognized lesions with limited studies available. Their pathological properties and clinical courses are not well understood. Here, we report a case of UCMN with atypia, suggesting low malignant behavior, discussing histopathological features, current treatment options, and a review of the literature.

Materials and methods

A 54-year-old man presented with macroscopic hematuria. MRI identified a mildly enhanced cystic lesion in the cranial side of the urachus, and enhanced CT suggested a sessile tumor. Laparoscopic resection of the tumor was performed successfully. Pathological examination was conducted, revealing the diagnosis as MCTLMP/ intraepithelial cystadenocarcinoma. Histological features included urothelial maturation and columnar differentiation with intestinal metaplasia. Immunohistochemical staining was performed to further characterize the lesion. Complete surgical excision was achieved, with no follow-up planned yet.

Results

Macroscopic examination revealed a cyst filled with proteinaceous material. Histology showed a multilocular cystic process luminally covered with heterogeneous epithelium. Areas of urothelium displayed maturation, while other areas exhibited columnar differentiation with extensive intestinal metaplasia. Papillary structures with atypical columnar epithelium showed moderate to significant nuclear atypia and frequent mitosis (5-6/10 HPF), upgrading the lesion to MCTLMP/ intraepithelial cystadenocarcinoma without clear stromal invasion. Immunohistochemistry showed SATB2, CDX2, and CK20 positivity in the atypical epithelium, with CK7 negativity. P53 exhibited wild-type expression. MUC5 and MUC2 were positive in the atypical regions, with MUC1 showing a mirror-image staining. ER and PR were positive in the stromal component.

Conclusions

This case reports a MCTLMP / intraepithelial carcinoma of the urachus, a rare entity with no established follow-up protocol. Urachal tumors can have unpredictable clinical courses, necessitating surgical resection and long-term follow-up. Previously, mucinous cystic tumors were thought to be non-malignant ; however , this might be one of the few reported cases suggesting potential malignant transformation.

P 06

DIAGNOSTIC IMMUNOHISTOCHEMISTRY USE IN BELGIAN LABORATORIES.

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Background

In Belgium, the use of IHC has grown in the last decade and there is a lack of information on the indications for which it is reimbursed. The aim of this study is to offer an overview on the use of diagnostic IHC.

Materials and methods

Two sources were explored: first, data from the compulsory health insurance database, which contains information on reimbursed stains and their associated costs. Second, data extracted from a sample of pathology reports gathered from Belgian laboratories, for the year 2019. This second source captured the stains used, the indications, and body sites for biopsies

Results

Over the last 10 years, the use of IHC in Belgium grew from 729 030 stains in 2012 to 1 194 331 in 2019, an increase of 63.8%. The main stains used in 2019 were H. Pylori, Ki-67 and broad spectrum CK, which were used in multiple body sites, leading to difficulties in identifying specific indications. The body site with the highest number of IHC stains was the gastro-intestinal tract (38.2% of all stains performed).H. Pylori was the most frequently used stain in gastro-intestinal biopsies (43.1%), and CD3 the second (6.8%).

Conclusions

This study offers an overview of the most frequent indications for which diagnostic IHC staining is used in Belgium. The gastro-intestinal tract appears to be the most common body site, with H. Pylori being the most common stain. Our study reflects the evolving nature of this field, and highlights the importance to increase transparency in procedure encoding to avoid overutilization of IHC.

P 07

KERATIN GRANULOMA MIMICKING PERITONEAL IMPLANTS.

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Background

In this case, we aim to promote the microscopic and radiological clinicopathological ap-proach of keratin granulomas in terms of their benign nature in advanced diagnostic and treatment options in patients with peritoneal alterations that mimic neoplastic involve-ment.

Materials and methods

A 63-year-old woman presents with postmenopausal bleeding and was diagnosed with endometrioid adenocarcinoma, FIGO Stage I, for which she underwent total hysterectomy and bilateral salpingo-ooforectomy. During the surgery, multiple peritoneal implants were found, which were sent for intraoperative frozen section examination.

Results

Frozen sections revealed foreign body giant cells reaction with amorphous eosinophilic material. Permanent sections revealed presence of such granulomatous lesion at the level of peritoneum, left fallopian tube and right ovary surrounding an extracellular eosinophilic keratin material. This was positive on CKAE1/AE3 stain and negative for other immuno-histochemistry stains that characterize low grade endometrioid adenocarcinoma (PAX8, ER and PR), excluding being metastatic foci and confirming the diagnosis of keratin granuloma.
The uterus showed a low grade endometrioid adenocarcinoma with squamous differenti-ation, ER and PR strongly positive, p53wt and no MMRd. Lymph nodes were negative for malignancy. Both tubes and ovaries were free of malignancy, moreover; the right tube and the left ovary didn't show any lesions associated with keratin granulomas.

Conclusions

Keratin granuloma are rare occurrences and are associated with various etiologies, of which the non-infectious ones include among others endometrioid adenocarcinoma.
This case reports the appearance of widespread keratin granuloma mimicking peritoneal implants.
Awareness of this important pitfall in intraoperative staging both for the sur-geon and pathologist can reduce overtreatment and incorrect staging.

P 08

EPITHELIOID ANGIOSARCOMA OF THE URINARY BLADDER POST-BRACHYTHERAPY.

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Background

Urinary bladder angiosarcoma is an exceedingly rare entity and is associated with previous radiation therapy. Immunohistochemical evaluation is necessary to differentiate between poorly differentiated urothelial cell carcinoma and prostate adenocarcinoma. The outcome is poor and therapeutic interventions are sparse.

Materials and methods

An 84-year-old male presented at the emergency department with hematuria, dysuria and polyuria, since one day. Relevant history includes a prostate carcinoma Gleason 7 in 2007, which was treated by curative brachytherapy, with no sequela. Imaging, including US and CT, revealed an irregular, partial hyperreflective and partial reflective lesion of 4.6 cm growing transmural through the bladder, suspicious for transitional cell carcinoma. A transurethral bladder resection was performed and sent to pathology for further examination.

Results

Histological examination revealed a poorly differentiated tumor composed of epithelioid cells with abundant eosinophilic cytoplasma with solid growth, and anastomosing vessels filled with blood, lined by significantly atypical cells. There was hemorraghe, necrosis and muscle invasion. Immunohistochemistry was negative for epithelial, urothelial and prostate markers. They were positive for ERG, CD34, CD31, factor VIII and c-myc, confirming the diagnosis of an epithelioid angiosarcoma. RNA-based sequencing did not reveal gene rearrangements. The patient chose palliative care and underwent euthanasia.
We aim to contribute to the existing literature available on this malignant vascular tumor and to highlight the importance of considering it in the differential diagnosis of bladder tumors as well as to raise awareness of its existence among clinicians and pathologists

Conclusions

This case report discusses clinical presentation, radiological findings, histopathological features, and treatment approach for this challenging malignancy, in a patient with a history of brachytherapy for prostate adenocarcinoma. Angiosarcomas are highly aggressive tumors with poor outcome and provide challenging diagnostics.

P 09

ADENOCARCINOMA OF THE SEMINAL VESICLE: A CAVEAT WITH DIAGNOSIS.

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Background

Primary adenocarcinoma of the seminal vesicle is a rare urological malignancy most fre-quently with poor outcome. The entity has been described in about 60 cases only. Clinical information and radiological examination are of great importance for diagnosis. This is often made in advanced disease stage due to lack of symptoms. Thus, core biopsy and confirma-tion by immunohistochemistry remain gold standard. Metastasis and infiltration by neigh-boring organs need to be ruled out.

Case

A 58-year old man presented with a big mass in the prostate that was growing towards the seminal vesicles, right ureter, rectum and bladder. A serum PSA level was measured at low value (1.47ng/ml). Core biopsy was performed and diagnosis of a prostatic adenocarcinoma, Gleason grade 8 (4+4) was made. The patient was treated by androgen deprivation therapy showing poor therapy response and disease progression with further extension into the rec-tum. New evaluation on imaging suggested that the mass infiltrated the seminal vesicles massively. New biopsies were taken.

Pathological diagnostic work-up

The core biopsy showed a moderately to poorly differentiated gland-forming tumor with big eosinophilic cells with very atypical nuclei. Diagnostic immunohistochemistry was per-formed. The tumor showed no expression of PSA, PSAP, p63, CK20, synaptophysin, chro-mogranin, Gata3, androgen receptor and NKX3-1. CK7 and Ca125 were strongly positive in all tumor cells. This suggested an immunohistochemical profile in favor of a primary adenocar-cinoma of the seminal vesicle.

Conclusion

Adenocarcinoma of the seminal vesicle is a rare entity that should be included in the differ-ential diagnosis of locally advanced prostate cancer. Clinical and radiological information are extremely imported to obtain correct diagnosis. As shown in our case, the morphology of this entity can be similar to a high grade adenocarcinoma of the prostate.

Discussion

This entity could be a pitfall in the automatic Gleason scoring by artificial intelligence.

P 10

ONCOCYTIC RENAL TUMOR: PITFALLS OF BIOPSY.

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Background

TFE3 and TFEB rearranged renal cell carcinomas (RCCs) are molecular defined RCC subtypes especially observed in children and adolescents (40%). However, they represent 1.6-4% of adult RCCs. Despite they both have characteristic patterns, those tumors more often show heterogeneity in architecture and cytology, mimicking other common RCC subtypes.

Case presentation

A 46 year old women presented with a hypodense renal mass with moderate contrast capturing, situated in the left intermediate and inferior pole and measuring 63mm in largest diameter.

Diagnostic work-up

At first, core biopsy was performed, showing small tumor fragments composed of crushed eosinophilic cells without identifiable architectural pattern. All tumor cells expressed PAX8 and CD117. CK7, vimentin, CD10 and AMACR were negative. The case was signed out as an oncocytic renal tumor with immunohistochemical phenotype more in favor of an oncocytoma, but with a statement that a chromophobe RCC could not be excluded.

Afterwards, the resection piece showed a totally different architecture from that of an oncocytoma.

At microscopy, the tumor presented a heterogeneous pattern with, in the center, formation of papillary structures lined by eosinophilic and clear cells with marked membranes. In the periphery, solid nests of eosinophilic cells were found. Necrosis was present in 5% of the mass. At immunohistochemistry, the tumor was negative for CK7, vimentin, ALK and CA9. It showed positive staining for PAX8, CK AE1AE3, CD117, E-cadherin and MELAN-A. FH was preserved.

Complementary molecular biology analyses were done. Fluorescence in situ hybridization showed a rearrangement in the gene TFE3, confirmed by RNA-sequencing showing a fusion transcript RBM10 : TFE-3.

Conclusion

Core biopsy of renal tumors should be taken with caution. Complete resection piece, immunohistochemical phenotyping and complementary molecular biology analyses are inconceivable for correct diagnosis especially in tumors with oncocytic morphology. Where will artificial intelligence have its place in this complex diagnosis

P 11

A RARE RENAL TUMOR IN A 25-YEAR-OLD WOMAN: MORPHOLOGY AND IMMUNOHISTOCHEMISTRY ARE ESSENTIAL!

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Background

Some papillary renal tumours do not correspond to the classic papillary carcinoma (formerly type 1) and deserve closer attention, as their diagnosis has become more precise in recent years using more specific immunohistochemical panels.

Materials and methods

We received a kidney specimen with a circumscribed, partly cystic tumour with haemorrhage. Microscopic examination revealed a papillary lesion with sclerotic fibro-vascular axes and neoplastic cells with eosinophilic cytoplasm and prominent nucleoli. An initial immunohistochemical panel consisted of PAX8, P504S, CA IX, GATA3, p40 and CK7. A second panel with TFE-3, fumarate hydratase and 2-SC was important for diagnosis.

Results

The neoplastic cells were negative for cytokeratin 7. This, together with the absence of foamy macrophages (in the papillae), argues against a papillary renal cell carcinoma (RCC). CA IX negativity in the neoplastic cells also rules out clear cell RCC. Urothelial carcinoma is excluded by PAX8 positivity and the cells being negative for both GATA3 and p40. The second immunoshistochemical panel allowed us to define the diagnosis. TFE3 negativity, which indicates the absence of a TFE3 translocation, excludes TFE3-rearranged RCC. Finally, loss of fumarate hydratase immunostaining and positivity for 2-succinylcysteine confirmed the diagnosis of a fumarate hydratase-deficient RCC.

Conclusions

The diagnosis of fumarate hydratase-deficient RCC is essential given the genetic nature of the disease in the majority of the cases. Thus, when faced with papillary morphology, especially in young patients, more specific immunohistochemical studies are necessary, if conventional immunoassays fail to provide an accurate diagnosis. However, a detailed medical history is essential to avoid extensive and unnecessary immunohistochemical analysis.

P 12

DOUBLE JEOPARDY: ENDOMETRIAL CARCINOMA MASQUERADING AS HPV-ASSOCIATED CERVICAL SQUAMOUS CARCINOMA AND NSCLC.

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Background

An elderly woman presented with a large cervical mass of 3.8 cm. Biopsy showed well-differentiated squamous nests with block p16 positivity, indicative for HPV-associated squamous carcinoma. Concurrently, a lung nodule consisted mainly of mildly atypical squamous sheets resembling NSCLC.

Materials and methods

The cervical and lung biopsies were re-evaluated. Additional immunohistochemical stainings, including Ki67, PTEN, PAX8, and β-catenin, were performed on both cervical and lung biopsy samples. The morphology and immunohistochemical profiles of these biopsies were compared with each other.

Results

Both biopsies exhibited similar morphological and immunohistochemical profiles, revealing a tumoral process with predominantly squamous nests and some compressed glandular ducts at the periphery. Notably, minimal atypia was observed in the squamous nests, with very low proliferation of Ki-67, which is unusual for cervical squamous carcinoma. Additional immunohistochemistry indicated clear PTEN loss, nuclear β-catenin, typical of squamous morules in endometrial carcinoma, and peripheral positive PAX8, the latter suggestive of ill-formed glandular structures at the border of the squamous nest. The overall picture aligns more closely with endometrial carcinoma with extensive squamous morules. The lung metastasis similarly exhibited predominantly squamous morules and a minimal glandular component with the same immunohistochemical profile.

Conclusions

This case highlights that not every cervical lesion with block p16 positivity is HPV-related. Endometrial carcinoma with extensive squamous morules extending into the cervix enters the differential diagnosis when these squamous nests lack atypia and show low Ki-67. Furthermore, this case underscores that an endometrial carcinoma with lung metastasis can predominantly consist of squamous morules with a minimal glandular component.

P 13

ASSOCIATION OF SUBCUTANEOUS FAT NECROSIS OF THE NEWBORN AND COARCTATION OF THE AORTA: A CASE REPORT.

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Background

Subcutaneous fat necrosis of the newborn is a rare form of panniculitis that usually occurs in full-term infants. Generally, the condition is spontaneously resolving. Diagnosis is based on clinical features and specific changes observed on pathological examination.

Materials and methods

Observation of a case of subcutaneous fat necrosis of the newborn diagnosed on February 2024 within the department of pathology of the Mohammed VI university hospital center of Marrakech.

The objective is to evaluate the clinical, pathological and evolutionary profile based on a case study with a review of the literature.

Results

We report the case of a newborn on third day of life, hospitalized in pediatric emergency department for acute respiratory distress due to an incidentally discovered coarctation of the aorta. Clinical examination revealed ecchymotic and necrotic lesions on the trunk and abdomen, associated with fever. A laboratory checkup revealed hyponatremia at 128mmol/l, anemia at 7.7ng/dl, calcemia at 99 mg/l, thrombocytopenia at 49000/µl and a non-specific inflammatory syndrome.

A skin biopsy revealed a normal microscopic appearance of the epidermis and dermis, with hypodermal lobular panniculitis associated with foci of eosinophilic necrosis of adipose tissue including optically empty intra-adipocytic radial clefts, corresponding to lipid crystallization.

Conclusion

This observation illustrates a case of subcutaneous fat necrosis of the newborn with a histopathological appearance similar to the ones in the literature, with the atypical association of coarctation of the aorta. It is a rare entity whose diagnosis is confirmed by clinical-histopathological correlation. The evolution is generally favorable.

P 14

AXILLARY LYMPH NODE METASTASIS OF AN INVASIVE SOLID PAPILLARY CARCINOMA: A DIAGNOSTIC CHALLENGE!

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Background and objective

This case illustrates the importance of correlating histopathological findings with clinical data to achieve an accurate diagnosis, ultimately guiding effective patient management.

Material and method

A 56-year-old woman without prior oncological history presented with a swelling in the right axillary area. Recent mammography screening had been reported as normal. Ultrasound revealed a deep mass below the pectoralis major muscle of 5,7 cm in largest dimension. No other nodules were detected. A PET-scan showed an intense uptake in the right axilla. The initial FNAC, performed elsewhere, was reported as malignant cytology, suggestive of a pulmonary small cell neuroendocrine carcinoma (SCLC). Subsequently, a surgical excision of the mass was performed.

Results

The histopathological analysis showed a nodular, well-circumscribed tumour within a lymph node. The neoplastic cell population was monotonous and showed expansile growth with a vague spindle cell aspect, without extracapsular extension. The neoplastic cells had moderate eosinophilic cytoplasm with faint cell boundaries and were arranged in a solid nested pattern around delicate fibrovascular axes. The nuclei were moderately pleomorphic with granular chromatin, without pronounced hyperchromasia, and yielded rare nuclear grooves or occasional discrete nucleoli. The mitotic activity was high, with up to 31 mitoses per HPF. The tumour was diffusely positive for GATA3, ER, PR, synaptophysin and chromogranin, and negative for SMM-HC, p40, TTF1 and CK20. The Ki67 index was 20%.

Discussion

The overall histopathological and immunohistochemical profile suggested a lymph node metastasis of an invasive solid papillary carcinoma of the breast, despite its presumed excellent prognosis. The patient underwent MRI imaging, which revealed three suspicious foci in the right breast. Subsequent mastectomy confirmed the presence of multifocal invasive carcinoma with neuroendocrine differentiation, and one nodule was compatible with an invasive solid papillary carcinoma. This case illustrates that not all metastatic carcinomas with neuroendocrine differentiation are pulmonary SCLCs!

P 15

CASE REPORT: A UNIQUE PRESENTATION OF MICROCYSTIC SCLEROSING ADENOCARCINOMA OF THE VOCAL CORD.

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Background

Sclerosing microcystic adenocarcinoma (SMA) is a rare subtype of adenocarcinoma in the head and neck region, with very few cases documented. This case report presents a unique case of SMA occurring in the vocal cords, a location not previously reported.

Materials and methods

A 75-year-old patient presented with progressive hoarseness. Laryngoscopy revealed leu-koplakia on the left vocal cord with preserved mobility. CT scan of the larynx confirmed a mass on the left vocal cord, extending to the thyroid cartilage. A left cordectomy by laser (type Va) was performed.

Results

The histopathological examination revealed a hypocellular tumor with broad, collagenized to sclerotic stroma intermixed with deep infiltrating cell nests forming duct-like struc-tures. These structures were composed of a luminal cuboidal and an abluminal myoepi-thelial layer. There was no significant cytonuclear atypia. Mitoses were absent, as well as necrosis. Perineural invasion was clearly present. Immunohistochemistry showed strong positivity for cytokeratins (AE1/AE3 and CK7), with P63 positive in luminal cells and Ki67 indicating a 10-15% proliferation rate. The morphology and immunohistochemical profile were consistent with SMA. NGS excluded the presence of mutations or fusion gene tran-scripts.

Conclusions

This case is the first presentation of SMA in the vocal cords, previously only documented in minor salivary glands and nasopharynx. Recently recognized in the WHO 5th edition, SMA typically presents with subtle symptoms such as dysphagia with a rather indolent clinical course. Histopathological examination features small glandular structures within a dense sclerotic stroma. Differential diagnosis includes adenoid cystic carcinoma, mu-coepidermoid carcinoma, and polymorphous adenocarcinoma.

P 16

A CASE OF FETAL AUTOPSY AND LITERATURE REVIEW ON HETEROTAXY.

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Background

Heterotaxy (or "situs ambiguus") is defined as the abnormal positioning of internal thoracic and/or abdominal organs across the right-left axis. By convention, heterotaxy excludes a normal arrangement of internal organs («situs solitus»), but also a mirror-imaged arrangement («situs inversus»).

Materials and methods
This was a fetal autopsy performed in the department of pathology at the Brussels University Hospital (HUB). The diagnosis of heterotaxy was established after autopsy and on the basis of the definition of situs ambiguus, in which there is malposition of the internal organs with or without cardiac malformation. The case resulted from a medical termination of pregnancy.

Results

The fetus was 14 weeks of gestational age. The examination of the face revealed the presence of facial dysmorphia and a cystic hygroma. An examination of the internal organs revealed that both lungs were bilobed. A dextrocardia was observed. There was left atria isomerism. There was a malposition of the great vessels (L-malposition). The gastrointestinal tract exhibited a lateral defect, with a sigmoid loop directed to the right. The spleen was single and located in the left hypochondrium. The liver was normal, with an unidentifiable gallbladder.

Despite the absence of polysplenia, the malformative picture was compatible with left isomerism. Whole Exome Sequencing (WES) was performed and a pathogenic variant was identified in the homozygous state within the DNAI1 gene: c.48+2dup.

Conclusions

A review of published cases of heterotaxy with DNAI1 mutation shows that left isomerism is a recurrent malformative picture and that there is phenotypic variability. The increased utilisation of WES (Whole Exome Sequencing) or even WGS (Whole Genome Sequencing) in cases of heterotaxy may facilitate the identification of novel genes involved in the establishment of right-left asymmetry in the embryo.

P 17

EXTRACARDIAC RHABDOMYOMA IN A 5-MONTH-OLD BOY: A CASE REPORT.

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Introduction

Rhabdomyomas are rare and benign striated muscle tumours which often arise in the head and neck area. Due to their infrequency and nonspecific clinical presentation, diagnosis can be challenging, especially in paediatric patients where the lesion is particularly uncommon.

Case report

A 5-month-old boy presented with left facial asymmetry, clinically diagnosed as vascular malformation. Incisional biopsy revealed a unencapsulated muscular tumor in the deeper dermis with infiltrative borders. The cells were large and polygonal in shape, with bland cytonuclear features and occasional cross striations. Immunohistochemistry showed positivity for smooth muscle actin, desmin and myogenin. Thus, diagnosis of rhabdomyoma was made. Due to the size, a cautious FU without further excision is chosen. To date, no obvious change in size is noted.

Discussion

Rhabdomyomas are classified into cardiac and extracardiac types, the former being the most common paediatric heart tumour, and the latter further divided into foetal, adult, and genital types. Extracardiac foetal rhabdomyomas are exceedingly rare, are mostly related to genetic loss-of-function mutations in the tumour suppressor gene PTCH1 or to FLCN mutation, and have a non-specific clinical presentation. Histology reveals a well circumscribed, non-infiltrative lobular mass with non-atypical cells with striated muscle differentiation, also proven by immunohistochemistry. Treatment typically involves surgical excision, and prognosis is generally favourable with complete removal; however, recurrences may occur in inadequately excised lesions, in which case careful re-examination for evidence of deceptively bland embryonal rhabdomyosarcomas. In the case of inoperable tumors, mTOR-inhibitors may be an option.

Conclusions

This case highlights the importance of considering rhabdomyomas in the differential diagnosis of a soft tissue mass, especially in infants. Knowledge of this lesion is essential to rule out malignancy, investigate the genetic background, and guide appropriate management.

P 18

LOW-GRADE ADENOSQUAMOUS CARCINOMA: A RARE TRIPLE NEGATIVE BREAST TUMOR WITH UNCOMMON CHARACTERISTICS.

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Background

Metaplastic carcinoma of the breast (MCB) is a rare tumor, making up less than 1% of breast cancers. Here, we discuss a 69-year-old woman with a 27 mm spiculated mass, diagnosed as no special type (NST) carcinoma, and treated with lumpectomy and neoadjuvant chemotherapy (NAC).

Materials and methods

The lumpectomy showed a nodular lesion with a sclerotic center and slender extensions into the adjacent stroma. The tumor contained cytologically bland spindle cells with low mitotic activity, as well as tubular and squamous-like structures, and was surrounded by clusters of lymphocytes. Immunohistochemistry showed ER, PR and HER2 negativity, 5% Ki67 immunoreactivity, and positivity for CK5, CK7, p40, and p63. This profile supported the diagnosis of low-grade adeno-squamous carcinoma (LGASC) and differentiated it from morphological mimickers.

Results

MCB is a diverse group of invasive breast carcinomas that consist entirely, or in part, of elements that lack the histologic appearance of adenocarcinoma. It is almost always triple-negative, a hallmark of aggressive breast tumors, yet a less aggressive subset of MCB can present with a low Ki67 index. In biopsies, MCB can resemble benign conditions like sclerosing adenosis, especially when positive for p40 and SMMHC, and shows morphological overlap with non-specific type (NST) breast carcinoma, further complicating diagnosis. Here, the triple-negative phenotype in combination with low Ki67 immunoreactivity, should have alerted the pathologist to consider the diagnosis of LGASC, which would have prevented the use of NAC.

Conclusions

Accurate diagnosis of LGASC requires careful histopathological and immunohistochemical evaluation. Awareness, extensive sampling, and pathognomonic features like a low Ki67 index in a triple-negative tumor are invaluable. Distinguishing LGASC from similar lesions in biopsies, such as sclerosing adenosis and NST breast cancer, with the help of clinical information and immunohistochemistry, is essential to avoid misdiagnosis and ensure proper patient management.

P 19

FAIR CARE IN LABORATORY PRACTICES: ABOUT A CASE ILLUSTRATING THE IMPORTANCE OF THEREASONED GLOBAL APPROACH TO REDUCTION OF THE ENVIRONMENTAL FOOTPRINT.

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Background

Taking into account the environmental footprint in healthcare has become a major concern
requiring us to think about how we want to carry out Pathology in the landscape of tomorrow. The techniques used in diagnostics contribute significantly to this footprint.

Materials and methods

We report the case of a 54-year-old woman presenting with a pigmented lesion of the scalp. After clinical and dermoscopic examination, the lesion is resected by the dermatologist because it has clinical and macroscopic characteristics of malignancy. The skin excision sample came to us fixed in formalin and underwent macroscopic and technical procedures, resulting in the production of five stained slides with hematoxylin-eosin (H&E).

Results

Suspicious dermoscopic criteria such as shape, network, spots, dots, color and boundaries were in favor of a malignant pigmented lesion.
Microscopic examination revealed the presence of an extensive melanocytic lesion.
The junctional component included a proliferation of atypical cells located along the basal lamina with nests of variable size. Trans-epidermal pagetoid ascension was also seen. Small groups or isolated cells were observed in the superficial dermis in a context of regression.
Breslow thickness was measured at 0.50 millimeters. No mitosis was observed. The resection was complete. The diagnosis of superficial spreading melanoma was proposed, corresponding in the WHO classification to a low-risk melanocytic tumor, T1a with minimal infiltration (class III), requiring only a simple re-excision, according to national recommendations.

Conclusions

Our case illustrates the importance of a reasoned global approach in reducing the environmental footprint of practices. Clinico-pathological correlation and histology alone allowed the diagnosis, without requiring additional techniques like immunohistochemistry, thus allowing a carbon saving of 0.363 kg eCO2/IHC.
It is essential to integrate a multidisciplinary approach into medical training to prevent anxiety that could prompt prescribe unnecessary techniques.

P 20

PROGNOSTIC MARKERS FOR UPSTAGING OF BIOPSY-DIAGNOSED DUCTAL CARCINOMA IN SITU OF THE BREAST.

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Background and objective

Approximately 20% of patients with biopsy-diagnosed pure ductal carcinoma in situ (DCIS) present an invasive tumor in the subsequent resection. At present, there are no reliable prognostic markers to predict upstaging to invasive cancer.
Materials and methods
Archived biopsy slides of 260 patients with pure biopsy-diagnosed DCIS were assessed. Nuclear atypia, predominant DCIS architecture, necrosis, calcifications, myxoid stroma, lobular cancerization, and tumour-infiltrating lymphocytes (TILs) were scored. Statistical analysis (SPSS version 27) included Chi square tests for categorical data and Mann-Whitney tests for continuous data.

Results

Ninety-five women (36.5%) underwent mastectomy and 165 (63.5%) underwent a lumpectomy. Fifty-one of 260 women (19.6%) were upstaged to (micro-)invasive carcinoma after surgery. Patient age, type of surgery and laterality were not significant linked with upstaging.
Nuclear atypia, myxoid stroma, necrosis and lobular cancerization were not significantly associated with upstaging. Higher TIL levels showed a trend towards upstaging without being statistically significant (p=0.5). Predominant DCIS architecture was most often cribriform (138 cases; 53.9%) followed by solid architecture (66 cases; 25.7%). Twenty out of 66 DCIS (30.3%) with solid architecture were upstaged (p=0.01). Sixty DCIS (23.5%) did not contain calcifications, of which 21 (35%) showed upstaging after surgery (p<0.001). In multivariate logistic regression analysis, DCIS with solid architecture and lack of calcification were significantly associated with upstaging: 8 out of 12 (66.7%) predominantly solid DCIS without calcifications were upstaged (p<0.001).

Conclusions

Lack of calcifications and solid DCIS architecture are significantly associated with upstaging. We aim to collect clinical data in the future, allowing to investigate whether DCIS patients without histopathologically diagnosed calcifications more often present with a clinically palpable mass. TILs levels, assessed as percentages, showed too much overlap between both groups to be clinically useful for risk prediction. We will also investigate the expression of fifteen proteins in the future.

P 21

FLUORESCENT MULTIPLEX IMMUNOSTAINING WORFLOW IN BREAST CANCER RESEARCH.

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Background and objective

We aimed to apply six sequential immunostainings on a single section of breast cancer bi-opsies, to limit the use of tissue and to assess protein co-localization.

Materials and methods

Firstly, fine-tuning of each individual antibody by chromogenic immunohistochemistry was required to test the dilution of the primary antibody clones, their antigen retrieval (pH), their staining pattern and the type of control tissue. Monoclonal antibodies were preferred, designed for use on formalin-fixed paraffin-embedded tissue.

Secondly, all six antibodies were tested at each position of the sequential multiplex immu-nofluorescence staining. This step identified antibodies requiring several antigen retrieval steps, used here to detach antibodies after each staining cycle. This test is required to avoid potential interactions between high affinity antibodies due to incomplete stripping.

Upon establishing this protocol, multiplex staining was performed on all slides using an au-tostainer (Leica Bond RXm). This allowed to realize a 6-plex staining in 24 hours, instead of 72 hours for manual staining, with improved reproducibility.

Slides were digitalized with a Zeiss Axioscan slide scanner. Analysis of the digitalized slides is performed with QuPath, which enables more objective quantification, such as calculation of the number of positive nuclei, the degree of stromal staining, etc.

Results

Individual fine-tuning was established on normal placenta, appendix, tonsil, and breast. Two 6-plex protocols were developed: one combining EGFR, P53, CD3, CD20, decorin, versi-can and one comprising lumican, biglycan, synaptophysin, CD8, FOXP3, cyclin-D1.

Conclusions

This multiplex immunofluorescence protocol is compatible with virtually all primary anti-bodies, allows to save tissue by using up to six antibodies per slide, and can be subjected to advanced computerized image analysis. This allows for accurate detection and localization of specific cell subtypes, identified by protein co-expression. The automatization of the staining process, slide scanning and image analysis, increases reproducibility, and gener-ates more objective results.

P 22

LOW-LEVEL MYC AMPLIFICATION OR POLYSOMY 8 IN POST RADIATION SARCOMA.

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Background and objective

For the diagnosis of HER2 amplification in invasive breast cancer, clear guidelines exist. This is not the case for MYC amplification in post-radiation sarcomas.
Materials and methods
A woman aged 65, had history of grade 2 invasive ductal carcinoma of the breast in 2007. The pT2N1aM0 tumour was ER-positive, PR-positive, and HER2-negative. She was treated with mastectomy, axillary lymph node dissection, adjuvant chemotherapy, radiotherapy, and hormonal therapy. In 2011, she developed a bone metastasis in D10, with the same immunohistochemical profile. In 2020, diffuse bone metastases were observed.

Results

In March 2024, a 1 cm subcutaneous nodule appeared under the mastectomy scar, which had doubled in size 3 months later. There was no ulceration. A skin metastasis was suspected, which was excised. However, the histopathological results were discordant. A pleomorphic spindle cell proliferation with a high mitotic rate was identified, without formation of vascular structures. Immunohistochemistry was negative for: ER, PR, HER2, CK-AE1E3, GATA3, CD34, SOX10, S100, desmine, caldesmon, SMM-HC, CD31, CD163. The tumour presented very focal weak positivity ERG. There was diffuse moderately intense expression of CD10, and diffuse weak to moderate nuclear expression of SATB2. High level amplification of C-MYC (4.5 copies/nucleus), which is often observed in post-radiation angiosarcoma, was absent, but polysomy 8 was suspected (IGH probe also 4.5 copies/nucleus). The tumour showed RB1 loss and absent p53 nuclear immunoreactivity, which is observed in both sporadic and post-radiation sarcomas.

Conclusion

This case presented a challenging diagnosis.The discrete increase of the MYC copy number is unlikely to represent a low-level amplification because the IGH probe presented a similar increase suggestive of co-amplification or polysomy 8.
All data were in favour of a high-grade sarcoma with osteosarcomatous differentiation. Given its presence in the irradiation field, this tumour was considered as a post-irradiation sarcoma.

P 23

PSEUDOENDOCRINE SARCOMA - A CLINICOPATHOLOGIC REPORT OF AN EMERGING ENTITY.

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Background

Pseudoendocrine sarcoma is an emerging mesenchymal neoplasm recently described by Papke et al., with unique clinical, histopathological and genetic characteristics. It occurs in older adults, and represents a neoplasm of uncertain line of differentiation with potential for local recurrence and metastases.

Materials and methods

A 70-year-old male, without any relevant medical history, was referred to our institution due to a slow growing painless mass in the right postero-lateral cervical region. The CT-scan showed a 65 mm intramuscular solid mass eroding the C1-C2 vertebrae. Biopsy revealed an epithelioid neoplasm of probable mesenchymal differentiation and of uncertain malignant potential. After multidisciplinary consultation, surgical excision was programmed.

Results

Grossly the surgical specimen was a fleshy well-circumscribed mass centered in the muscle and adherent to the bone. Microscopically it was a focally infiltrative multilobulated mass composed of sheets, nests and trabeculae separated by thin fibrotic septa. Neoplastic cells were ovoid with indistinct cell borders, eosinophilic cytoplasm and monomorphic round nuclei with dotted chromatin, set in vascularized stroma. Foci of psammomatous calcifications were identified. Mitotic activity was high (quantified in 17 mitosis per 10 high-power-fields) and necrosis was absent. Immunohistochemistry studies showed diffusely and strong nuclear staining for beta-catenin and paranuclear “dot-like” staining for CD99. Epithelial, neural, neuroendocrine and melanocytic markers were negative. DNA sequencing was performed and a CTNNB1 mutation was identified.

Conclusions

The characteristics of our case are concordant with those described in the literature. Pseudoendocrine sarcoma may pose a diagnostic challenge and awareness of this entity is crucial for a correct diagnostic and adequate clinical approach. With this case report we aim to provide additional information to broaden our knowledge of a newly describe entity.

P 24

LEARNED SOCIETIES AS A TOOL IN THE ECOLOGICAL TRANSFORMATION OF HEALTH CARE ?

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Background

The healthcare sector represents around 5 to 8% of the national carbon footprint. Pathology, as a diagnostic activity, is mainly dependent on fossil fuels and emits greenhouse gases (GHG), in the same surface ratio between the laboratory and the hospital.

Materials and methods

We sent a questionnaire about environnemental issues to practicing pathologists who are members of the learned society but also of the professional union (VBS/GBS). It included 11 multiple-choice questions and 1 additional question to provide any free comments. It is made up of 4 parts: a collection of brief demographic and professional information, an assessment of the level of awareness or personal training, desire for personal investment and the level of action already initiated or not in their workplace.

Results

The participation rate is low (13%).
The majority of respondents feel concerned about environmental issues (95%), with 7.5% reporting eco-anxiety/ depression issues. 5% say they are not interested in it.

The majority (85%) of these working professionals declare that they are insufficiently informed about environmental issues and, among them, 38% regret non-existent teaching at the university. 11% recognize a lack of time. 10% consider themselves sufficiently trained but admit to not having heard of the main general websites or environmental associations.
The majority (97.5%) are interested in taking action in their practice (1-2 hours/month for 37.5%), with 85% saying they have a personal role to play in decarbonizing healthcare but 42.5% of them restrain this action due to lack of time.

Conclusions

More than 90% of the pathologists are concerned about environmental issues and believe that it is their role to take an action. The majority deplore an insufficiency of training, both in faculties and in continuing education. We advocate for the priority implementation of continuing training on environmental issues and eco-responsibility (post-graduate courses, symposia, ...), promoted by all learned medical societies.

P 25

ENHANCING AMYLOIDOSIS DIAGNOSTICS: IMPLEMENTING AND VALIDATING A MASS SPECTROMETRY PIPELINE.

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Background

Amyloidosis is a group of diseases characterized by proteins misfolding into amyloid fibrils, accumulating in organs. Typing of the origin protein is challenging due to multiple reasons. However, the introduction of mass spectrometry (MS)-based proteomics has significantly advanced diagnostics.

Materials and methods

We aim to validate an MS pipeline for amyloid typing as part of BE.Amycon, a VIB-Grand Challenges project. Our pipeline involves obtaining samples from clinical settings, confirming amyloid, after which a section is used for laser capture microdissection (LCM), isolating amyloid-rich material, followed by low-input liquid chromatography-tandem mass spectrometry (LC-MS/MS) analysis using a timsTOF SCP instrument and DIA-PASEF acquisition. Data analysis is conducted using DIA-NN and in-house R scripts for statistical analysis and visualization of the proteome and culprit protein.

Results

Our MS-based proteomics method, although still experimental, showed promising results compared to traditional methods. We generated proof-of-concept using a kidney resection specimen with excessive glomerular amyloidosis. We successfully typed the specimen by MS, starting from only 60,000 µm2 isolated amyloid. We are now further fine-tuning the method, testing different protein extraction procedures and amyloid starting amounts for multiple tissues. Once fully optimized, our workflow will be used for retrospective validation of more than 250 archival cases. Consequently, we will perform prospective validation in the context of diagnostics.

Conclusions

We successfully implemented a workflow for the proteomics-based analysis of amyloidosis in routine diagnostic paraffin-embedded tissue biopsies. Further development and validation of the procedure are focused on implementing this technique for clinical use in Belgium.

P 26

TRPS1 IS CONSISTENTLY EXPRESSED IN HIDRADENOMA PAPILLIFERUM.

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Background

TRPS1 is a novel immunohistochemical marker, expressed in breast cancer. Although TRPS1 expression has recently been reported in skin adnexal tumors, it has not yet been reported in hidradenoma papilliferum, a benign adnexal neoplasm accepted to originate from mammary-like glands.

Materials and methods

Nine cases of vulvar or anogenital hidradenoma papilliferum were subjected to immunohistochemical analysis for TRPS1. Standard immunohistochemical methods were used. The anti-TRPS1 antibody was a rabbit monoclonal immunoglobulin G isotype antibody. Nuclear staining was considered positive, regardless of intensity.

Results

We report consistent nuclear expression of TRPS1 in the epithelium of 9/9 cases of hidradenoma papilliferum, while in 2/2 cases with foci of oxyphilic metaplasia, these foci were consistently negative for TRPS1 immunohistochemistry.

Conclusions

Our findings are in line with the theory that hidradenoma papilliferum is derived from mammary-like glands and showed that TRPS1 can be an additional sensitive immunohistochemical marker for hidradenoma papilliferum.

P 27

BELGIAN RECOMMENDATIONS FOR ANALYTICAL VERIFICATION AND VALIDATION OF IMMUNOHISTOCHEMICAL TESTS.

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Validation of medical tests in laboratories is important prior to implementation of the test in daily routine to guarantee the quality and reliability of the patient results.

But there are two problems: (i) There exist guidelines on validation of immunohistochemical biomarker assays but specific details regarding its application in individual laboratories of anatomic pathology are lacking. (ii) The European IVDR categorizes tests into CE-IVD tests and Laboratory developed tests (LDT) but does not contain a definition on modifications of CE-IVD tests resulting in LDTs and lacks information on how to demonstrate its clinical and analytical performance.

To solve these problems the expert group has elaborated step-by-step instructions for initial analytical verification/validation prior to implementation in daily routine, for revalidation after modification of the test protocol and for ongoing validation, by performing a literature study and a risk analysis. For each type of test, according to its origin (CE-IVD, modified CE-IVD, non CE-IVD) and its intended use (diagnostic, prognostic, pharmaco-predictive), step-by-step instructions on analytical verification or validation have been elaborated by recommending: (i) the number of cases in the validation set, (ii) the performance characteristics (e.g. accuracy, repeatability, reproducibility, sensitivity, specificity) to be evaluated, (iii) the objective acceptance criteria, (iv) the evaluation method for the obtained results and (v) how and when to revalidate.

Our recommendations are intended to help laboratories of anatomic pathology improving, harmonising and standardising their validation procedure. It is a compromise between achievability, affordability and patient safety.
We believe that the application of these recommendations will improve the accuracy of IHC testing, reduce inter laboratory variation and finally increase the overall quality of patient care.

P 28

EPITHELIOID GLIOBLASTOMA, BRAF P.V600E MUTANT. A REPORT OF A CASE DEVELOPPED IN THE CEREBELLAR VERMIS.

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Background

Epithelioid glioblastoma (E-GBM) is an exceedingly rare subtype of isocitrate dehydrogenase (IDH)-wildtype glioblastoma, first included in the WHO 2016 classification and characterized by a dominant population of epithelioid cells. Its histological and molecular defining features remain troublesome.

Materials and methods

This is to present a case of rare CNS tumor, in young adult patient, operated in our hospital (dr Gureshi). The histopathology specimen examined in the same hospital (Dr Yacoubi) and send to Mayo clinic Laboratories in USA for further opinion and broad molecular studies (Dr Nguyen).

Results

The patient is a 20-year-old male who presented for severe acute headache, and by brain MRI was found to have a large hemorrhagic mass, involving the vermis and extending into the fourth ventricle with obstruction of the aqueduct of Sylvius.

The tumor resected, demonstrates heterogenous morphology, defining an epithloid high grade glioma harboring brisk mitoses and necrosis. The tumor is positive for OLIG2, GFAP and BRAF V600E, indicative of an underlying BRAF p.V600E mutation, confrmed by molecular study, negative for IDH1-R132H and H3 K27M, retaining ATRX and H3 K27me3 expression. Chromosomal microarray a focal homozygous loss of 9p21.3 (including CDKN2A and CDKN2B). The final diagnosis was epithelioid glioblastoma, BRAF p.V600E mutant. The patient is currently undergoing Oncology protocol of Temozolamide with Radiotherapy.

Conclusions

Our case supports the importance of genetic BRAF p.V600 mutation analysis because its presence not only points to an E-GBM diagnosis but may also promote tumor progression and open new perspectives for targeted therapy.

P 29

NEUROFIBROMA OF GASTRO-INTESTINAL TRACT: REPORT CASE OF A MYXOID TYPE ARISING IN THE CECUM.

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Background

Spindle cell tumors of the gatsroinetstinal tract are rare, dominated by GIST. Neurogenic tumors such as neurofibroma are rare, more over it's myxoid type.

Materials and methods

We report here a new original case of benign neurogenic tumor developed in the cecum in an old man, operated (Dr Abdelgawad) and reported (Dr Yacoubi) in our hospital.

Results

A 74 year old man, presented with bdominal pain and nusea. Abdominal and pelvis CT showed a possible calcular cholecystitis with right cecal ovale mass at the base of the appendix measuring 4 cm, bulging in the cecum.Colonoscopy showed a submucosal neurogenic lesion. Right hemicolectomy with ileo-cecal anastomosis and cholecystectomy were performed. Grossly, the specimen showed a firm solid lesion, pushing the cecal mucosa, developed at the base of treh appendix mearing 4.5 cm in maximum dimension, with fatty lesion in ileo-cecal valve submocosa.

Histologically, the lesion consists of myxoid neurofibroma is (expression of S100, CD34). Two colonoscopies in one year of intervals were done and were unremarkable expect the presence of adenomes in the sigmoid and rectum.

Conclusion

Sporadic Spindle cell neurogenic tumors arinsing in the GI tract are rare. Neurofibroma is usually developed in cotext of neurofibromatosis. Ancillary studies are very helpful to rule out malignant lesions especially of myxoid type.

P 30

SYRINGOCYSTADENOCARCINOMA: A RARE MALIGNANT ADNEXAL GLAND NEOPLASM. REPORT OF A CASE, EVOLVED IN THE SCALP.

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Background

Syringocystadenocarcinoma papilliferum (SCACP) is a rare malignant adnexal neoplasm, which is consodere as a malignant counterpart of syringocystadenoma papilliferum. We report here in new case with lymph node metastasis and we discuss the diagnostic criteria and the relevant way of management.

Materials and methods

This is to present a case of rare skin tumor , in an old male patient, operated in our hospital (Dr Kahlaoui, Dr Abdelagawad). The histopathology specimen examined (Dr Yacoubi) in the same hospital.

Results

The patient is a 72-year-old male who presented two years ago, for fungating and ulcerated lesion of the sclap. The tumor resected is tan white and measures 3.5 x 3.0 x 1.5 cm , histologically showed a cystic papillary feature in the surface and invasion in the deepth, comprising microglands , tubules and sheets of atypical tumor cells. The papillas are lined by a multilayered apocrine, expressing CEA, GCDFP, CK5/6 and P63 in the basal layers The stroma showed plasma cells and perineural invasion. The diagnosis of SCACP is proposed. The surgical margins are clear. The patient disappeared and came with metastic large cervical lymph nodes, conformed by FNAC with suspicious lung nodule. Resection of the nodule will be done, followed by chemo-radiation.

Conclusions

This tumor has high potential of malignancy. There's no consensual protocol of managment. Latest studies showed multiple genomic alterations with PDL1 expression suggesting the potential benefits of target and immunotherapy.

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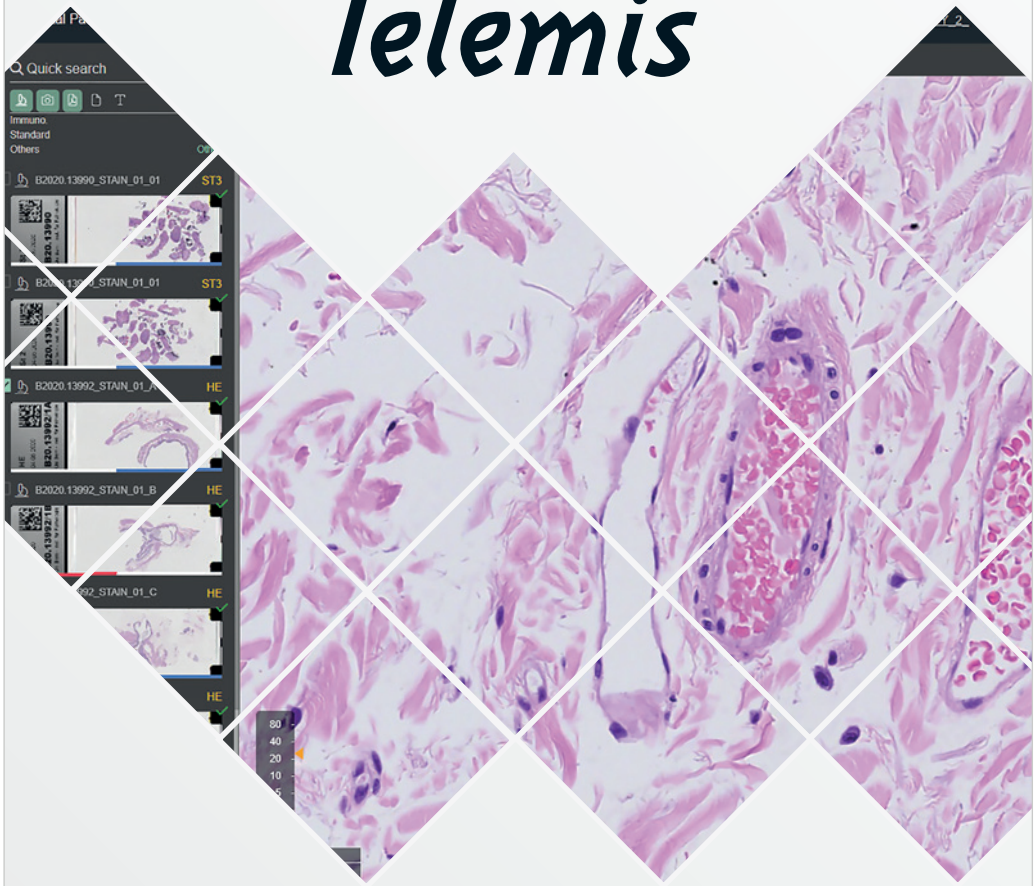

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