VII CORSO del GRUPPO ITALIANO DI EMATOPATOLOGIA

La DIAGNOSTICA EMATOPATOLOGICA nell'ERA della MEDICINA di PRECISIONE

A pancreatic mass as the first clue to investigate bone marrow disease

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Disclosures of Name Surname

Company name	Research support	Employee	Consultant	Stockholder	Speakers bureau	Advisory board	Other
None	None	None	None	None	None	None	None

Clinical presentation and Imaging

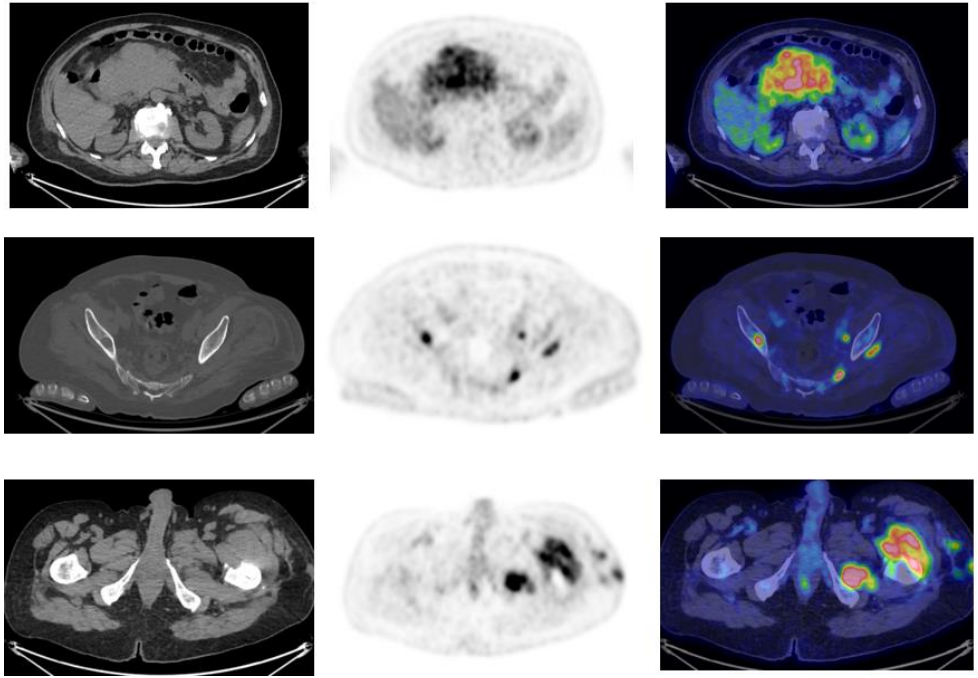
- Male, 73y
- Nausea, vomiting and abdominal pain

→ Referred to Gastroenterology

US:
Pancreatic solid **mass** of 110x86 mm.

CT total body:
Pancreatic, expansive, solid mass of 120x80 mm with heterogeneous vascularisation… multiple **osteolytic lesions.**

^{18}F-FDG PET/CT:
pancreatic, expansive, solid mass (SUV max 9.4) … multiple osteolytic lesions (SUV max 9.1) … **lymphoadenopaties** (SUV max 6.1)




200040736
S
DFOV 188.9 cm
R
L
PET VPFX
1
I
W: 5
L: 3

Laboratory tests:

DOSAGGI NEFELOMETRICI CATENE LEGGERE URINARIE

Kappa	12,8 ↑	mg/L	<10
Lambda	498,0 ↑	mg/L	<5
Rapporto Kappa - Lambda	0,03		

PRESENZA DI PROTEINA DI BENCE-JONES (IMMUNOFISSAZIONE)

Kappa	Negativa
Lambda	Positiva

Catene leggere libere Kappa e Lambda nel siero (FLC)

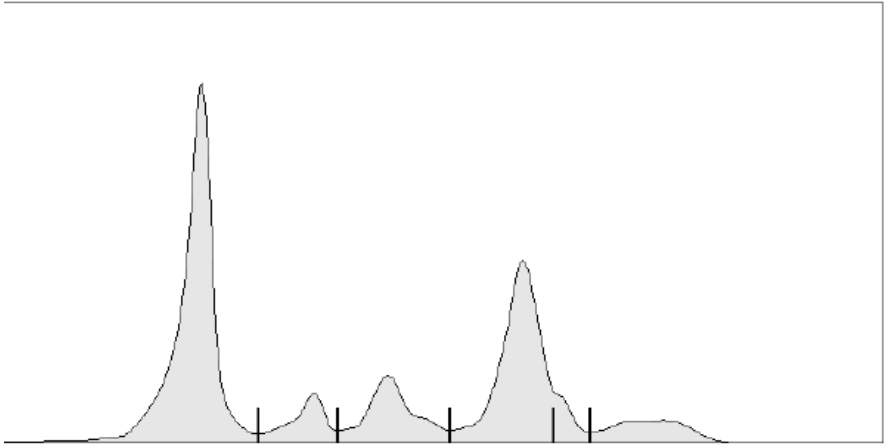
Kappa	**26,5 ↑**	mg/L	6.7 - 22.4
Lambda	**2070,0 ↑**	mg/L	8.3 - 27.0
Rapporto Kappa/Lambda	**↓ 0,01**		0.31 - 1.56

Elettroforesi capillare zonale delle sieroproteine

Frazioni proteiche

Albumina	**↓ 43,8**	%	55,8 - 66,1 %
Alfa 1	**6,3 ↑**	%	2,9 - 4,9 %
Alfa 2	**11,9 ↑**	%	7,1 - 11,8 %
Beta 1	**27,6 ↑**	%	4,7 - 7,2 %
Beta 2	**3,4**	%	3,2 - 6,5 %
Gamma	**↓ 7,0**	%	11,1 - 18,8 %
Componente Monoclonale (CM)	**15,1**	%	

Commento al referto: **Il tracciato elettroforetico rileva la presenza di una componente monoclonale (CM) di tipo IgA lambda in zona beta1. tipizzata mediante immunosottrazione**



Note relative alla presenza di componente monoclonale :
Sensibilità analitica elettroforesi : 0,19 g/L
Sensibilità analitica immunosottrazione (ISE) : 0,13 g/L
Sensibilità analitica immunofissazione (IFE) : 0,06 g/L
Determinazione quantitativa della componente monoclonale eseguita mediante tecnica perpendicular drop, ossia delimitazione dell'area del picco tra i due punti di flesso e la base.

Eritrociti (RBC)	↓ 2,80	$x10^6$/uL	4.0 - 5.6	4.5 - 5.6	4.0 - 5.0
Emoglobina (HB)	↓ 8,10	g/dL	11.0 - 16.0	13.0 - 16.5	12.0 - 15.5
Ematocrito (HCT)	↓ 24,60	%	33.0 - 45.0	37.0 - 50.0	35.0 - 48.0
Valore Globulare Medio (MCV)	87,70	fL	70.0 - 91.0	80.0 - 97.0	80.0 - 97.0
Contenuto Medio di Hb (MCH)	28,90	pg	23.0 - 33.0	25.0 - 34.0	25.0 - 34.0
Concentrazione Media di Hb (MCHC)	33,00	g/dL	23.0 - 33.0	32.0 - 38.0	32.0 - 38.0
Coeff. Variaz. Distrib. Eritr. (RDW)	20,30 ↑	%	11.5 - 17.5	11.0 - 15.0	11.0 - 15.0

RETICOLOCITI

Valore %	4,610 ↑	%	0,5 - 2
Valore Assoluto	0,129	$x10^6$/uL	

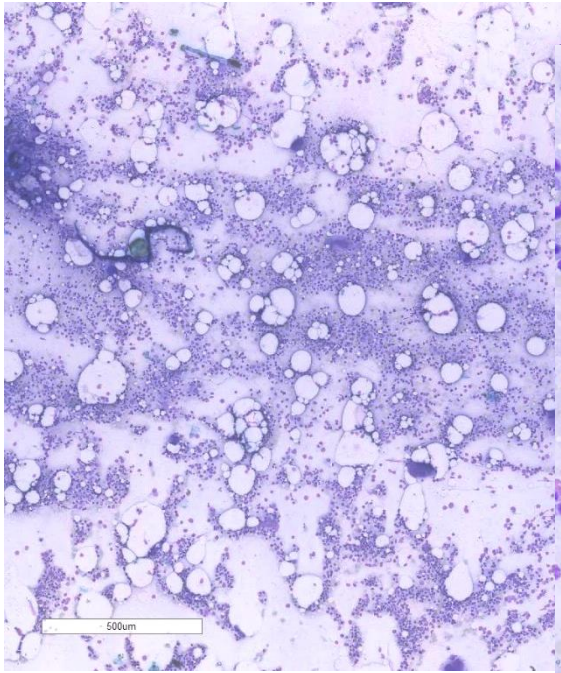
… Also

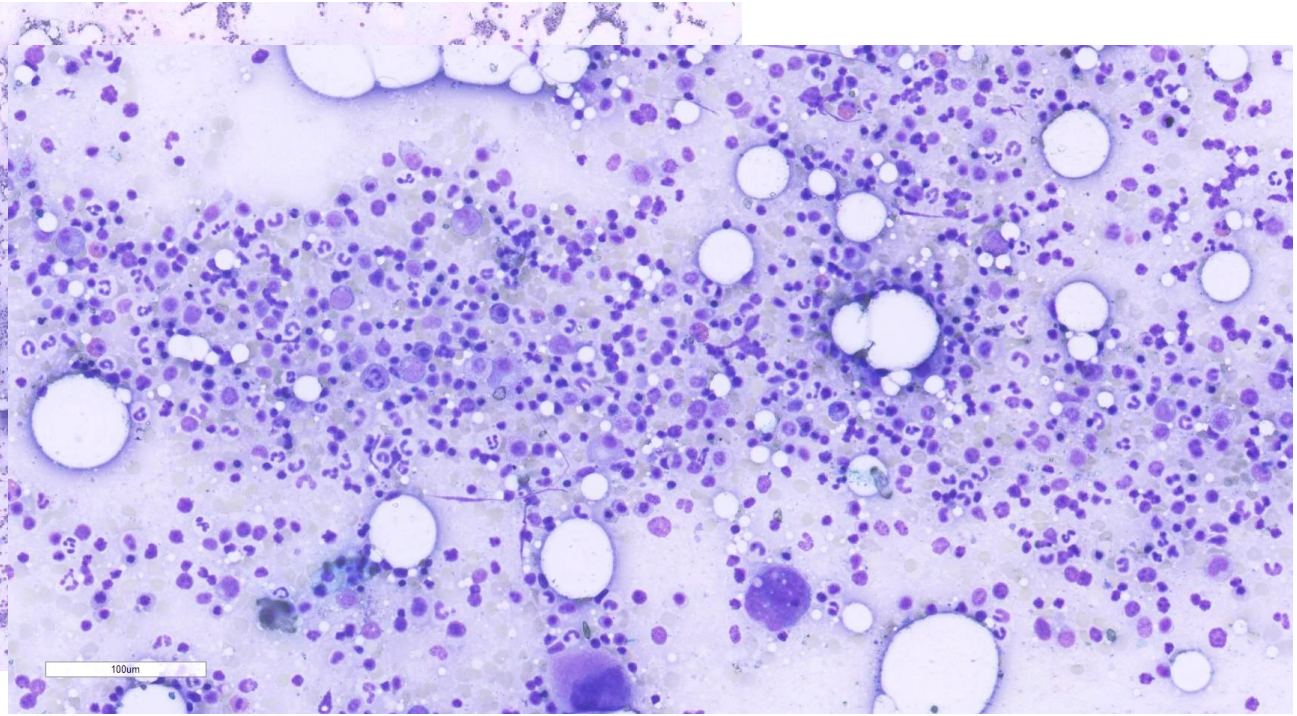
- Normocytic normochromic **anemia** with elevated RDW
- **Renal failure**

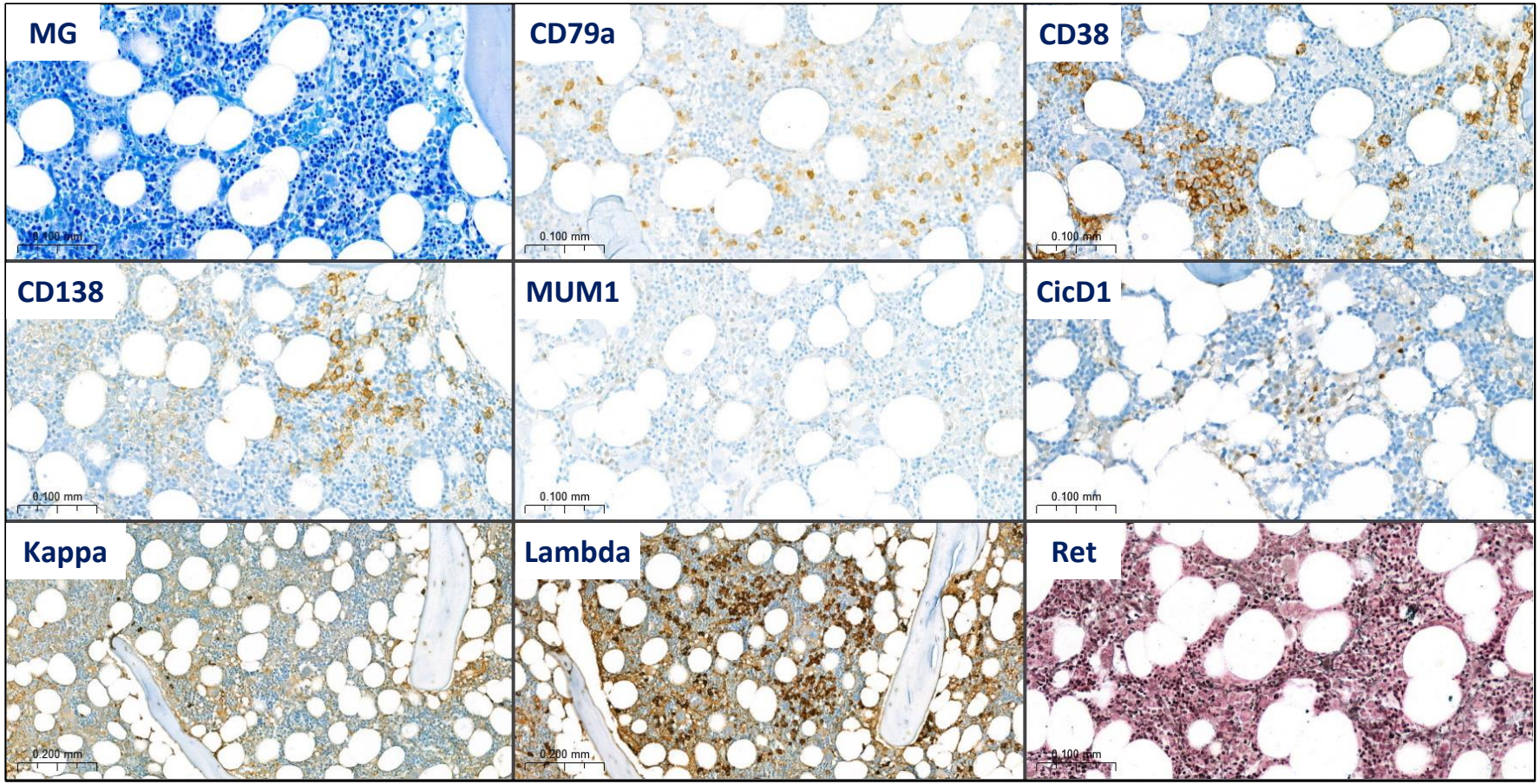
UREA (Ureasi)	161 ↑	mg/dL	16.6 - 48.5
CREATININA (CREA) (Enzimatico IDMS Tracciabile)	3,73 ↑	mg/dL	0.67 - 1.17
*e-GFR (CKD-EPI)	↓ 16	ml/min/1,73mq	> 90

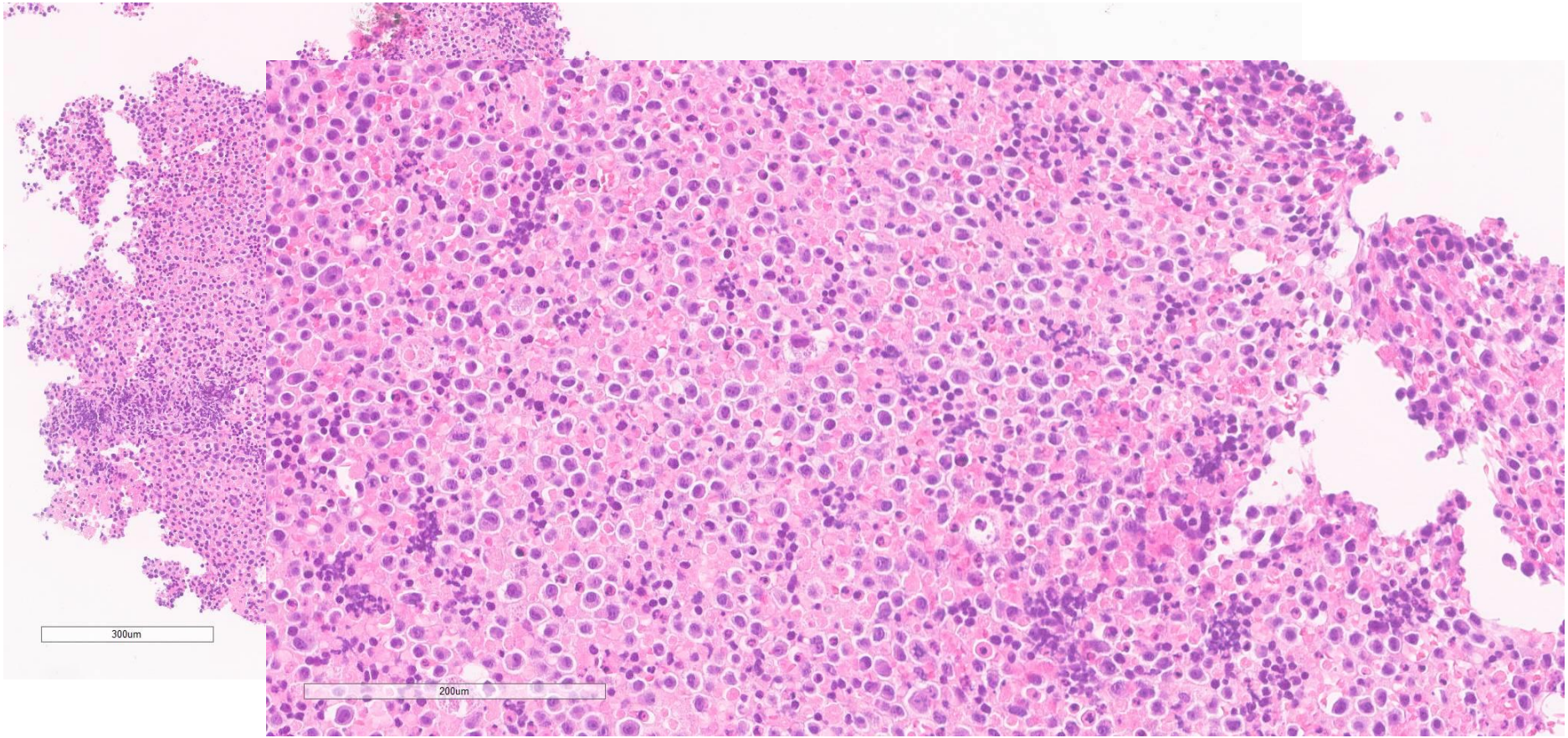
Bone marrow aspirate

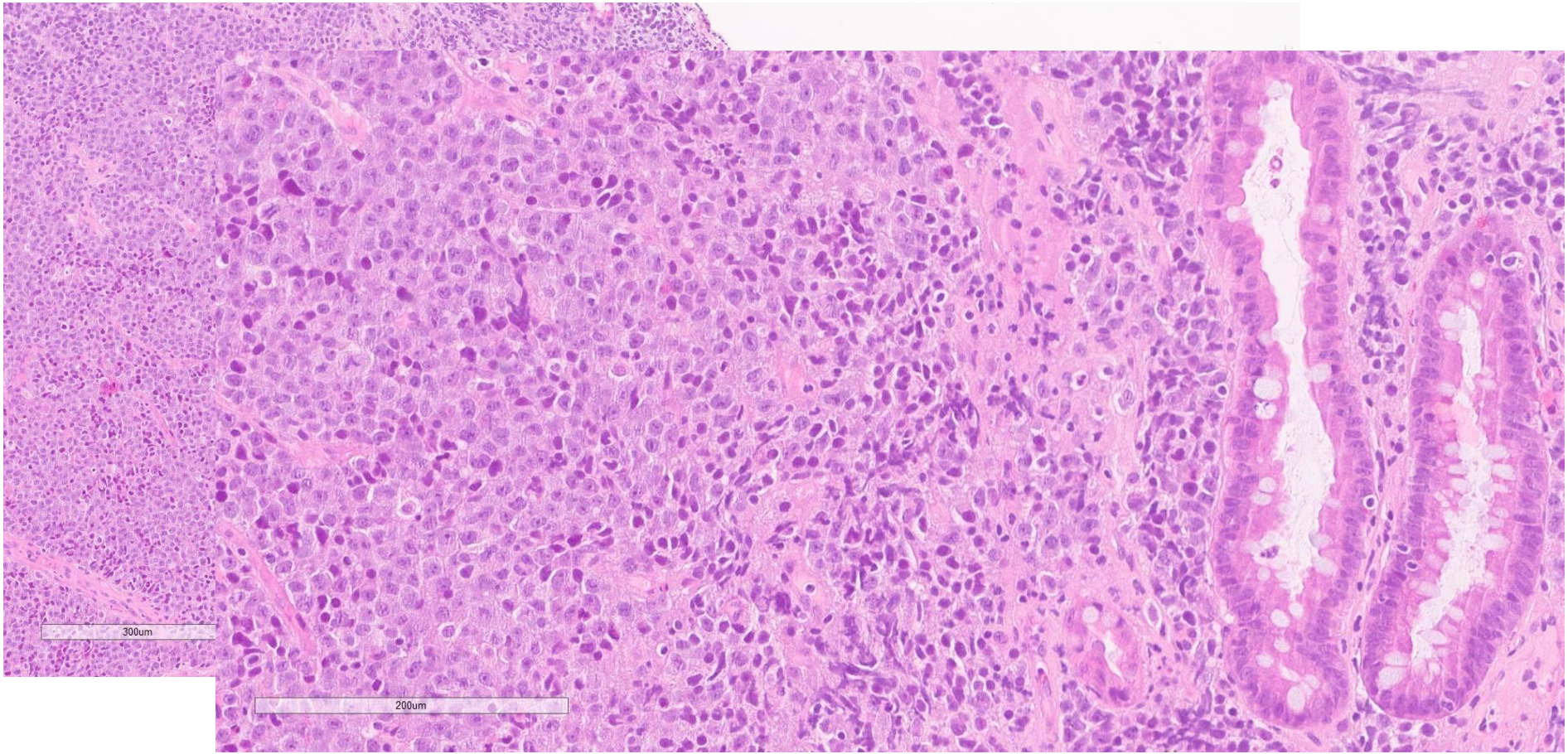
ANALISI CITOMETRICA: Presenza di una popolazione di plasmacellule patologiche CD38+CD138+CD19-CD56+CD45-cySmIg-Lambda+, pari al 2.5% della cellularita' totale. Le cellule CD34+, sono pari allo 0.6% della cellularità totale. Assenza di ematogoni CD19+CD34-CD45+/-. I linfociti B CD19+CD20+, sono pari all' 8% dei linfociti totali, e non mostrano segni di clonalita' (K/L=50%/50%). Assenza di cellule CD45-CD326+.






MG
0.100 mm
CD79a
0.100 mm
CD38
0.100 mm
CD138
0.100 mm
MUM1
0.100 mm
CicD1
0.100 mm
Kappa
0.200 mm
Lambda
0.200 mm
Ret
0.100 mm


300um
200um


300um
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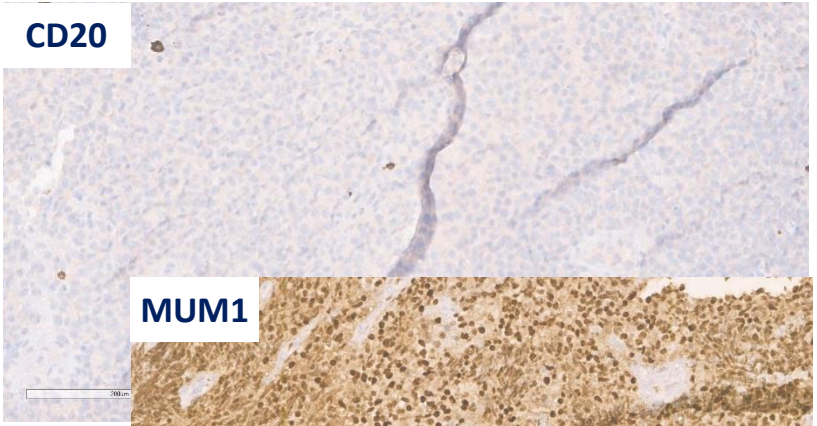
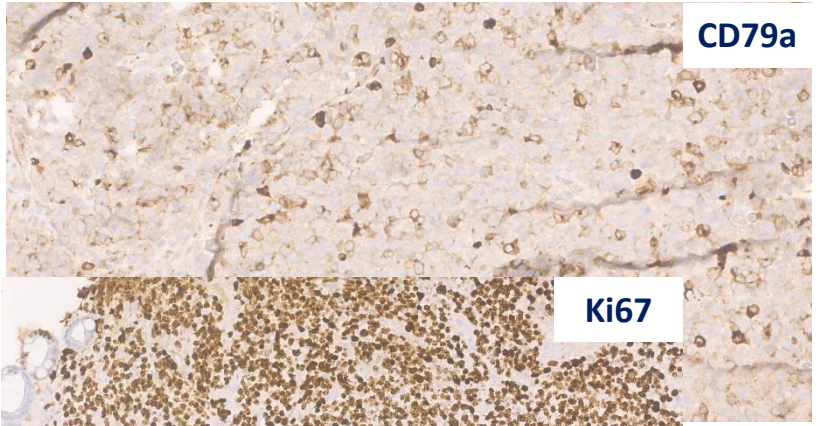
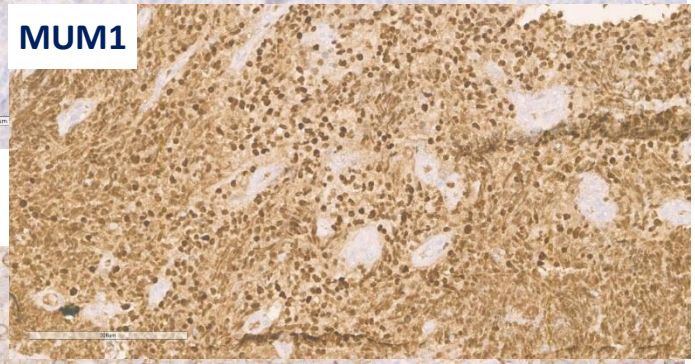
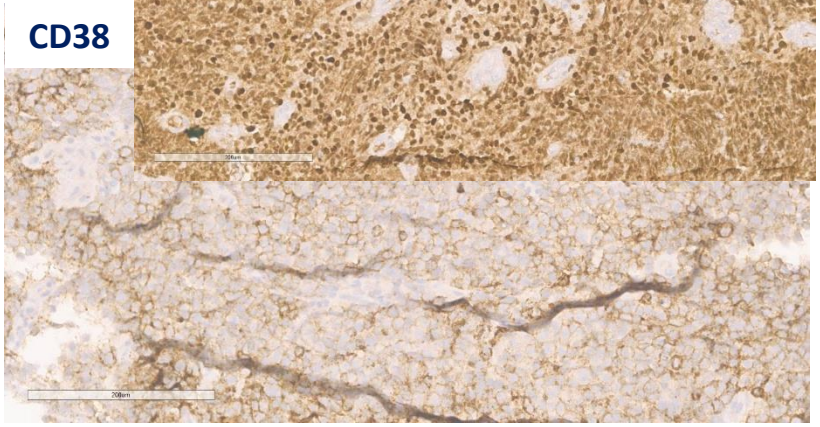
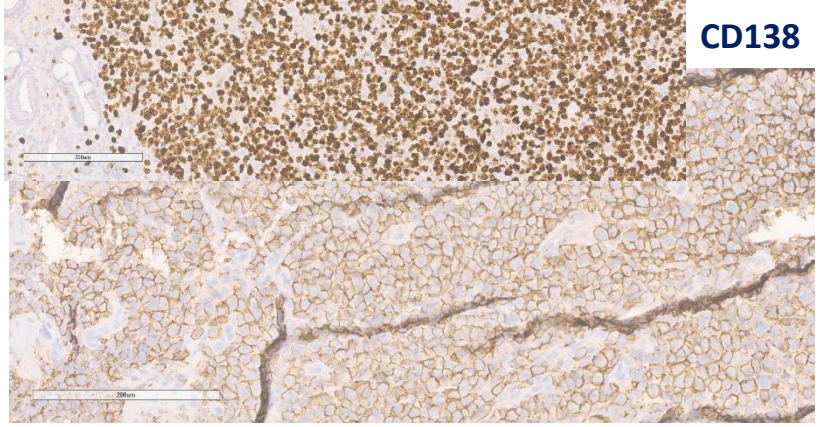

CD20


CD79a

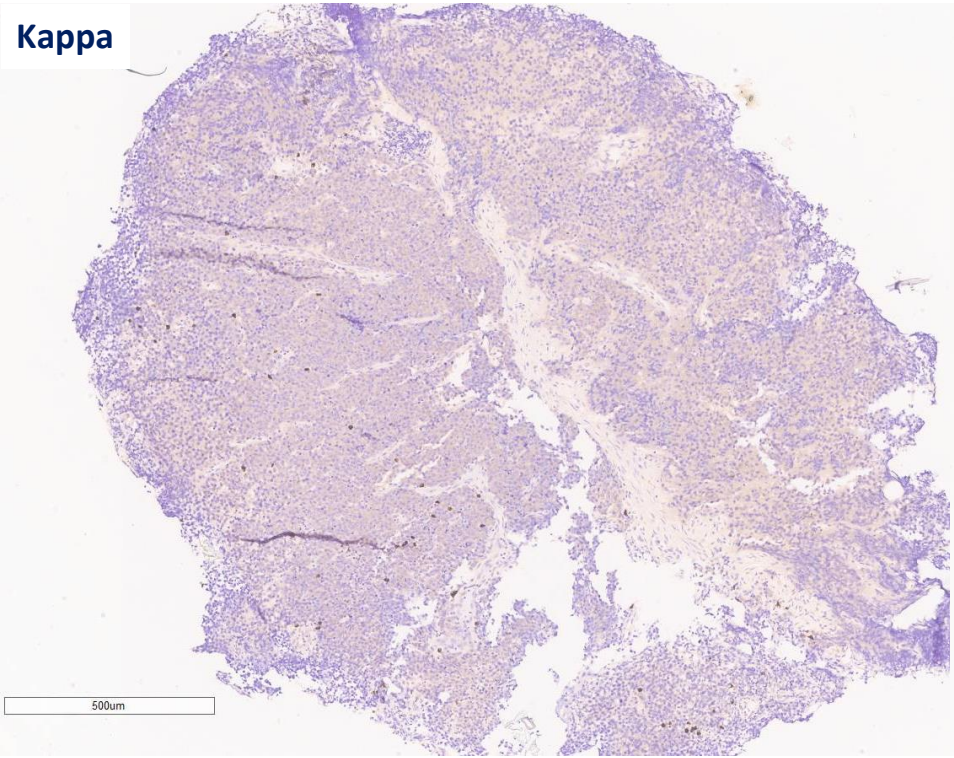

MUM1


Ki67

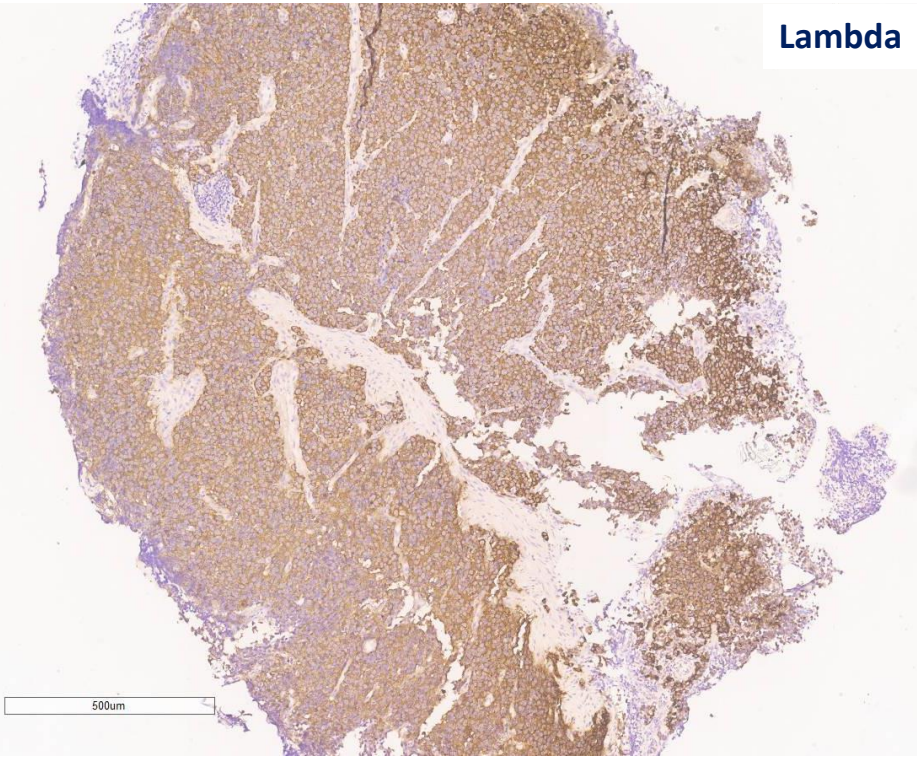

CD38


CD138

Kappa



Lambda



The main differential diagnosis – Plasmablastic lymphoma

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ANNUAL CLINICAL UPDATES IN HEMATOLOGICAL MALIGNANCIES

AJH WILEY

Plasmablastic lymphoma: 2024 update on diagnosis, risk stratification, and management

Andres Ramirez-Gamero[1] | Humberto Martínez-Cordero[2] | Brady E. Beltrán[3] | Jorge Florindez[4] | Luis Malpica[5] | Jorge J. Castillo[1,6]

Mini-symposium: Lymphoreticular pathology

Differential diagnosis of aggressive neoplasms with plasmablastic and late post-follicular differentiation

Gareth Leopold, Snjezana Dotlic, Ali Mahdi, Matthew Pugh, Stefan Dojcinov

Minimum diagnostic criteria for plasmablastic lymphoma of oral/sinonasal region encountered in a tertiary cancer hospital of a developing country

Shubhada Kane, Aditi Khurana, Gorakh Parulkar, Tanuja Shet, Kumar Prabhash, Reena Nair, Sumeet Gujral

Current knowledge on HIV-associated Plasmablastic Lymphoma

Michele Bibas[1] and Jorge J. Castillo[2]

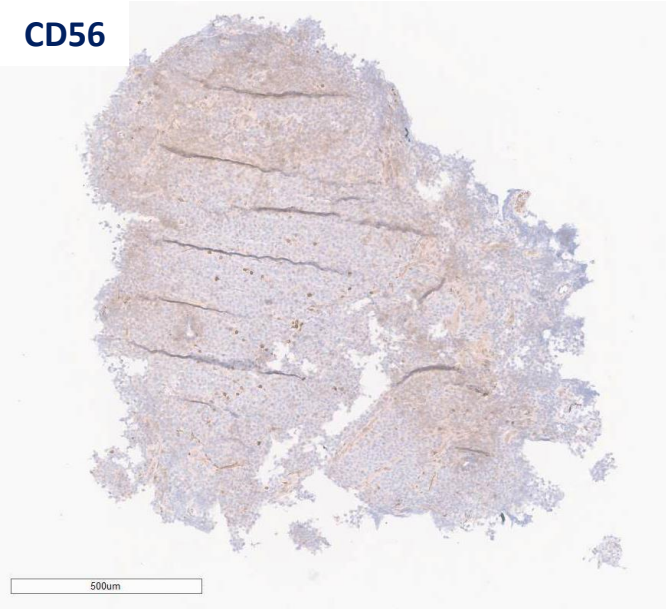
Diagnosis:

Multiple myeloma with **plasmablastic features** and **extramedullary** extension (pancreatic)

Diagnostic criteria IMWG:

1) Clonal Pcs account for ≥ 10% of bone marrow cells or biopsy-proven osseous or extraosseous plasmacytoma;
2) Myeloma-defining event, ≥ 1 required:
    - End organ damage directly attributable to the clonal PC population including:
        - hypercalcemia;
        - renal insufficiency;
        - anemia;
        - bone lesions;
    - Clonal PCs account for ≥ 60% of bone marrow cells;
    - Elevated SFLC ratio-involved: uninvolved ≥ 100, with involved FLC present at ≥ 100 mg/L;
    - At least one focal lesion evident by MRI, 5 mm minimum size

Extramedullary localisation:



the diagnosis

Possible mechanisms of extramedullary spread in MM:

a) decreased expression of adhesion molecules, such as CD56;

b) low expression of chemokine receptors or down-regulation of CXCR4 and its ligand CXCL12 (which is linked to the bone marrow homing of myeloma cells);

c) increased angiogenesis;

d) bone marrow hypoxia resulting in the egress of bone marrow plasma cells.

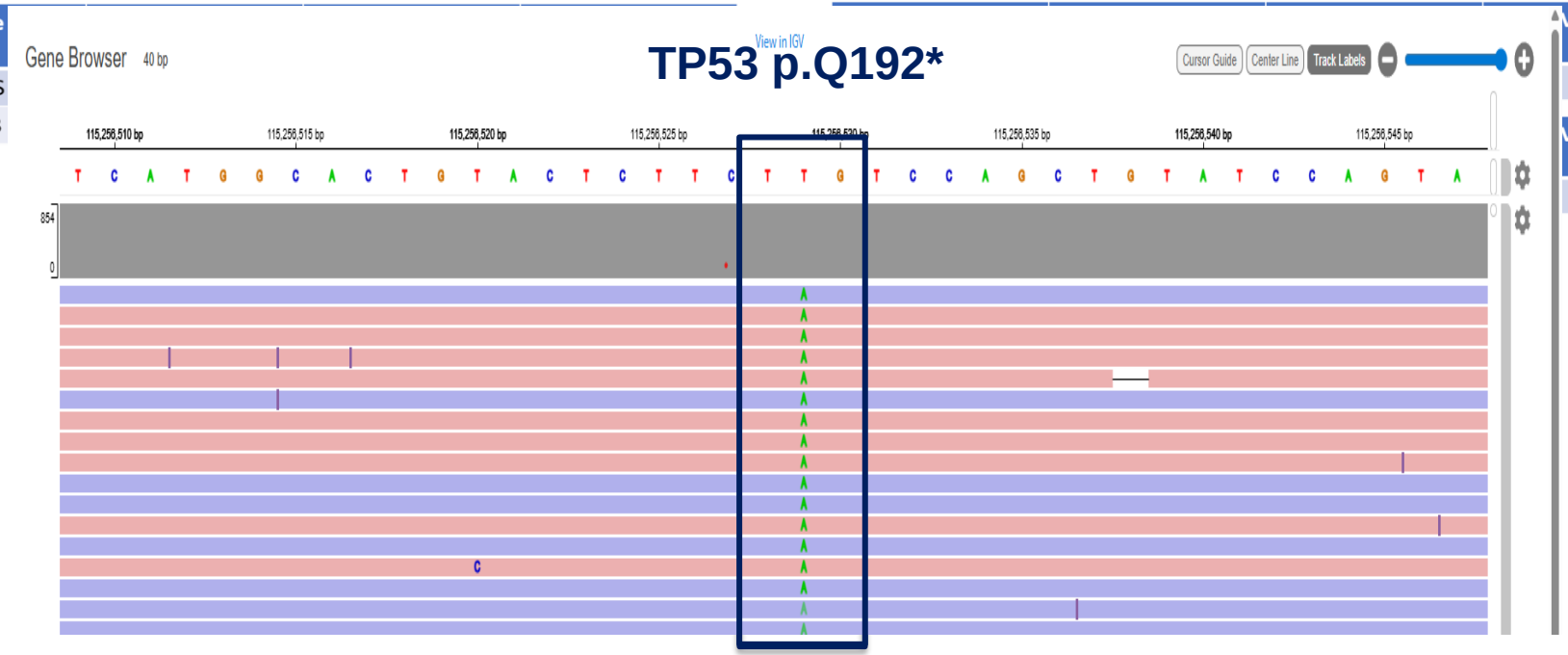
-Testa U, Leone G. Plasma Cell Neoplasms with Spreading in the Blood and Tissues: Extramedullary Myeloma Disease, a Rare Aggressive Form of Multiple Myeloma (First of Two Parts). Mediterr J Hematol Infect Dis. 2025 Jan 1;17(1):e2025005. doi: 10.4084/MJHID.2025.005. PMID: 39830797; PMCID: PMC11740910.
-Cerny J, Fadare O, Hutchinson L, Wang SA. Clinicopathological features of extramedullary recurrence/relapse of multiple myeloma. Eur J Haematol. 2008 Jul;81(1):65-9. doi: 10.1111/j.1600-0609.2008.01087.x. Epub 2008 May 6. PMID: 18462256.

Molecular analyses

Bone marrow specimen

Pancreatic and duodenal specimens

Gene
NRAS
TP53



VAF %
96,1

VAF %
79,0

Feature:	Liu et. Al (2020):	Our Case:
Morphology:	BM: mature plasma cells Extramedullary*: plasmablastic	BM: mature/immature plasma cells Pancreatic: plasmablastic
Cytogenetics:	Frequent 1q gain, 1p deletion, MYC alterations	Not available
Genetics:	Mutations in RAS pathways (6 cases available)	NRAS p.Q61L
Clinical behavior:	Median survival of 4,5 months (range 2-31 months)	Death in 1,5 months

*Mediastinal mass; lymph node (4); liver (3); nasopharynx; paraspinal mass

Therapies and prognosis:

DARA-VMP*: one cycle;
The patient died due to sepsis.

*Dimopoulos MA, et al. Multiple Myeloma: EHA-ESMO Clinical Practice Guidelines for Diagnosis, Treatment and Follow-up. Hemasphere. 2021 Feb 3;5(2):e528. doi: 10.1097/HS9.0000000000000528.

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