ECP-Nizza-slide seminar

Case 2 - Haematopathology slide seminar

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Primary cutaneous CD4+ small/medium-sized T-cell lymphoproliferative disorder

....from „benign lymphoma“ towards a lymphoproliferation with risk of relapse.......
clinical features

- 15 y old girl
- solitary subcutaneous tumour at the face (front)
- evolution of the lesion over two months
- due to worrying clinical appearance surgical excision/biopsy
Is a B-cell lymphoma possible?

BCL6

CD23

kappa

lambda

IGH-PCR polyklonal
Is a T-cell lymphoma possible?

CD4

CD8

CD4>>>CD8
Recommended staining: PD1
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groups and clusters of PD1+ larger lymphatic cells
TCR-PCR predominant clone in TCRgamma and TCRbeta PCR (Biomed2)
Diagnosis
Primary cutaneous CD4+ small/medium-sized T-cell lymphoproliferative disorder
Primary cutaneous CD4-positive small/medium-sized T-cell lymphoma/LPD

• rare (2%) subtype of primary cutaneous lymphomas
  • WHO 2000 not recognized
  • WHO 2008 provisional entity: "CD4...T-cell lymphoma"
  • revised WHO 2016 provisional entity: "CD4...T-cell lymphoproliferation"
Primary cutaneous CD4-positive small/medium-sized T-cell lymphoproliferation
WHO 2016/17

• **solitary**/(few lesions in one body area) **plaque or nodule** at face/trunc/extremities.

• dense dermal and **clonal CD4-positive T-cell infiltration** (CD4>>>>CD8)
  - cytology small/medium sized (WHO: <30% large cells, Ki67<20%)
  - **bandlike** monomorphic or
  - **nodular**-“pseudolymphoma like polymorphic“
  - many admixed B-cells

• Follicular T-helper-phenotype (**PD1+**, **BCL6**, **CXCL13**).

• No epidermotropism, folliculotropism rare.

• **indolent clinical behaviour**
Primary cutaneous small/medium-sized CD4+ T-lymphoproliferation results from study, n=67, lymphnode registry Kiel

- **76% nodular**, mixed cellularity pattern- **24% bandlike** limited to upper dermis

- B-cell content (CD20) mean 23% (5-70%)

- PD1 content mean 24 % (5-90)

- **Clusters of PD1 cells observed in 45%**

- proliferation (Ki67) mean 24% (5-45)
Primary cutaneous small/medium-sized CD4+ T-lymphoproliferation results from study, n=67, lymphnode registry Kiel

• clinical data on 23/67 patients

• all solitary lesions (head/neck > trunk > extremities)

• all local treatment

• no case of progression, few relapses, most CR

(16 complete remission
3 loss of FU
1 „stable disease“
5 local recurrence)
Salah E. JDDG 2018: literature-meta analysis on 517 reported cases
Primary cutaneous CD4+ small/medium-sized T-cell lymphoproliferative disorder differential diagnosis

- T-cell rich pseudolymphoma/drug reaction/lupus profundus
- Mycosis fungoides
- Sezary-syndrom
- secondary infiltration by a systemic T-cell lymphoma/leukemia
- T-cell rich indolent B-cell lymphomas

Histomorphology might be identical. Expression of CD4+ and PD1+ is not specific. DD clonality and clinical features/staging
Primary cutaneous CD4+ small/medium-sized T-cell lymphoproliferative disorder diagnostic clues (in DD towards „typical pseudolymphomas“)

- large lesions
- absence of germinal centers
- Clusters of PD1-cells
- CD4>>>CD8
Primary cutaneous CD4+ small/medium-sized T-cell lymphoproliferative disorder diagnostic clues (in DD towards „typical pseudolymphomas“)

- large lesions
- absence of germinal centers
- Clusters of PD1-cells
- CD4>>>CD8
- plus molecular evidence of a clonal T-cell receptor gene rearrangement (in our experience most cases TCRgamma and beta chain rearrangement +)
Primary cutaneous CD4+ small/medium-sized T-cell lymphoproliferative disorder

- indolent behaviour
- most cases with „pseudolymphoma-like“ histopathology
- except for clonality no hithertow reported molecular alteration
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Why name this lesion as a LPD and separate it from a pseudolymphoma?
Primary cutaneous CD4+ small/medium-sized T-cell lymphoproliferative disorder

- many cases with worrying clinical presentation
- some cases relapse or persist
- some cases have a monotonous lymphoma-like histopathology
- all cases are clonal T-cell proliferations
- greyzone towards Cutaneous Peripheral T-cell or T-Fh-lymphomas
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**Why not still call it indolent cutaneous T-cell lymphoma?**
Primary cutaneous CD4+ small/medium-sized T-cell lymphoproliferative disorder

• knowledge of this entity and tight defining criteria prevent „overdiagnosis“ of clonal CD4-LPDs as manifest T-cell lymphomas.
• knowledge of this entity provides a biological explanation for clinically lymphoma-like lesions.

Thank You