The Lugano Classification

Where we are in daily practice:
End-of-treatment PET/CT in DLBCL

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Problems with the use of the Lugano Response criteria in DLBCL

- Adoption of a new cut-off (DS3)
- Reproducibility (of DS3)
- Lack of standardization in reports
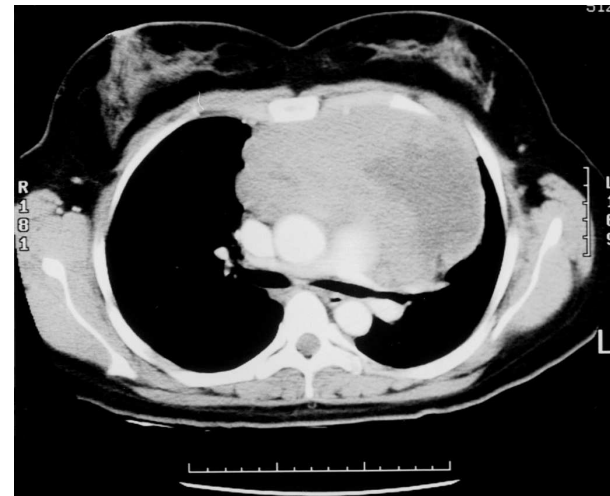- Different meaning of DS in i-PET *vs* eot-PET

Primary Mediastinal B-Cell Lymphoma (PMBCL)

- A relatively uncommon entity of NHL
- About 10% of DLBCL
- Over-represented in younger female patients
- Peak incidence 3-4th decade of life

	Nodular sclerosis Hodgkin lymphoma	Mediastinal gray zone lymphoma	Primary mediastinal B cell lymphoma	Diffuse large B cell lymphoma
Approximate median age	30 years	30 years	35 years	65 years
Gender predominance	female	male > female	female	male ≥ female
Typical manifestation	supraclavicular LN / mediastinal	mediastinal	mediastinal / supraclavicular LN	nodal
Bone marrow involvement	uncommon	rare	rare	16%

Peculiar features of PMBCL

- Bulky anterior mediastinal mass
- Local extension (stage I-II)
- No infradiaphragmatic adenopathies
- No BM involvement
- Usually stage I/II
- A simpler model for PET evaluation?

Response evaluation in PMBCL:
inter-observer agreement in expert panel

Central PET/CT review: initial reproducibility of DS3 among experts

	Mean	1	2	3	4	5	6
1	0.51		0.40	0.80	0.58	0.50	0.29
2	0.51	0.40		0.60	0.46	0.78	0.32
3	0.55	0.80	0.60		0.40	0.76	0.20
4	0.53	0.58	0.46	0.40		0.78	0.43
5	0.64	0.50	0.78	0.76	0.78		0.38
6	0.32	0.29	0.32	0.20	0.43	0.38	

Kripperndorf's alfa = 0.4

IELSG 37: Training Improves the Inter-Observer Agreement

before training

	Mean	1	2	3	4	5	6
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Kripperndorf's alfa = 0.4

after discussion and training

Mean	1	2	3	4	5	6
0.77		0.77	0.79	0.84	0.76	0.67
0.65	0.77		0.69	0.71	0.63	0.43
0.73	0.79	0.69		0.62	0.86	0.69
0.70	0.84	0.71	0.62		0.59	0.72
0.69	0.76	0.63	0.86	0.59		0.63
0.63	0.67	0.43	0.69	0.72	0.63	

Kripperndorf's alfa = 0.7

Ceriani et al. Haematol Oncol 2016

HOVON 84 study

HOVON

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Amsterdam

Interim ^{18}F-FDG PET/CT in aggressive lymphoma: assessment of interobserver agreement and impact of baseline PET or CT scan and disease localization

C.N. Burggraaff[1], A.C. Cornelisse[1], J.M. Zijlstra[1], O.S. Hoekstra[2], H.C.W. de Vet[3], P.J. Lugtenburg[4], F. Celik[5], J.E. Huijbregts[6], A.I.J. Arens[7], B. de Keizer[6]

501 iPET/CT reviewed centrally
Kappa for iPET/CT interobserver agreement: 0.65

Baseline ^{18}F-FDG PET/CT or CT only:

	positive agreement PA (%) P=0.14	negative agreement NA (%) P=0.68	Cohen's Kappa P=0.10
Baseline CT (n=123)	60.9	91.0	0.52
Baseline PET/CT (n=378)	76.1	92.3	0.68

Conclusion

- Availability of a baseline ^{18}F-FDG PET/CT results in a better interobserver agreement of iPET/CT, although not statistically significant
- Despite reasonable kappas, the relatively low PA scores indicate that observer agreement needs to be improved

Unmet need for education

Training is particularly required in the community (but also for the experts):

- To reduce inter-observer variability
- To improve communication between imaging doctors and clinicians

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