

VALEUR PRONOSTIQUE DE LA TEP/TDM INTÉRIMAIRE AU ¹⁸F-FDG POUR L'ÉVALUATION PRÉCOCE DE LA RÉPONSE À LA CHIMIOTHÉRAPIE DU LYMPHOME DIFFUS À GRANDES CELLULES B

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Supervision: Dr James Patrick Buteau, Dr Éric Turcotte

INTRODUCTION

- Recommandations lymphome hodgkinien NCCN 2020
 - Valeur bien établie de la TEP/TDM intérimaire (iTEP)
 - Critère de Deauville (D5)



NCCN Guidelines Version 2.2020 Hodgkin Lymphoma (Age ≥18 years)

[NCCN Guidelines Index](#)
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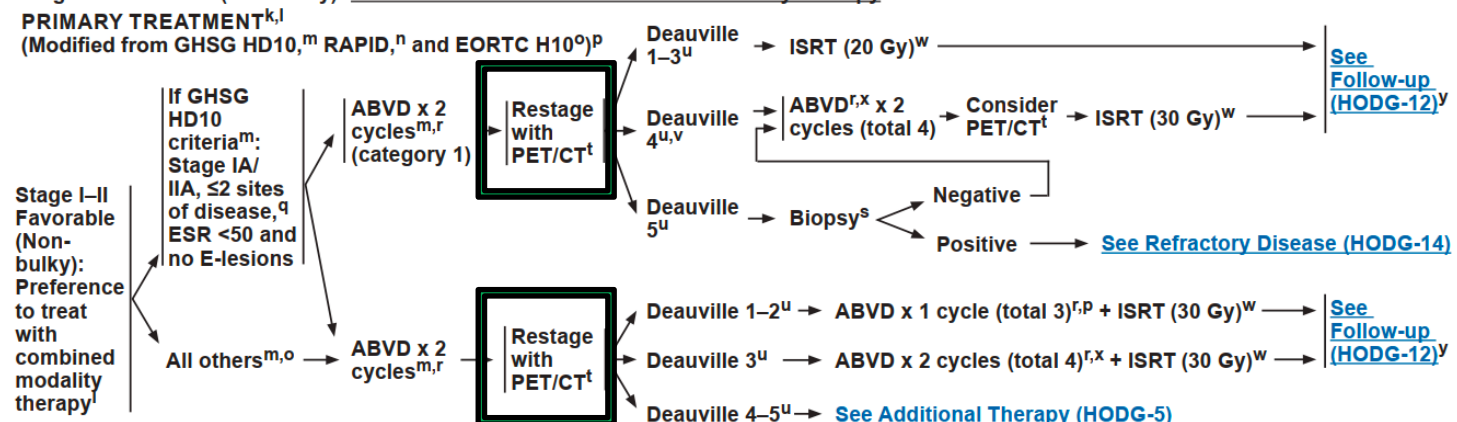
CLINICAL PRESENTATION:

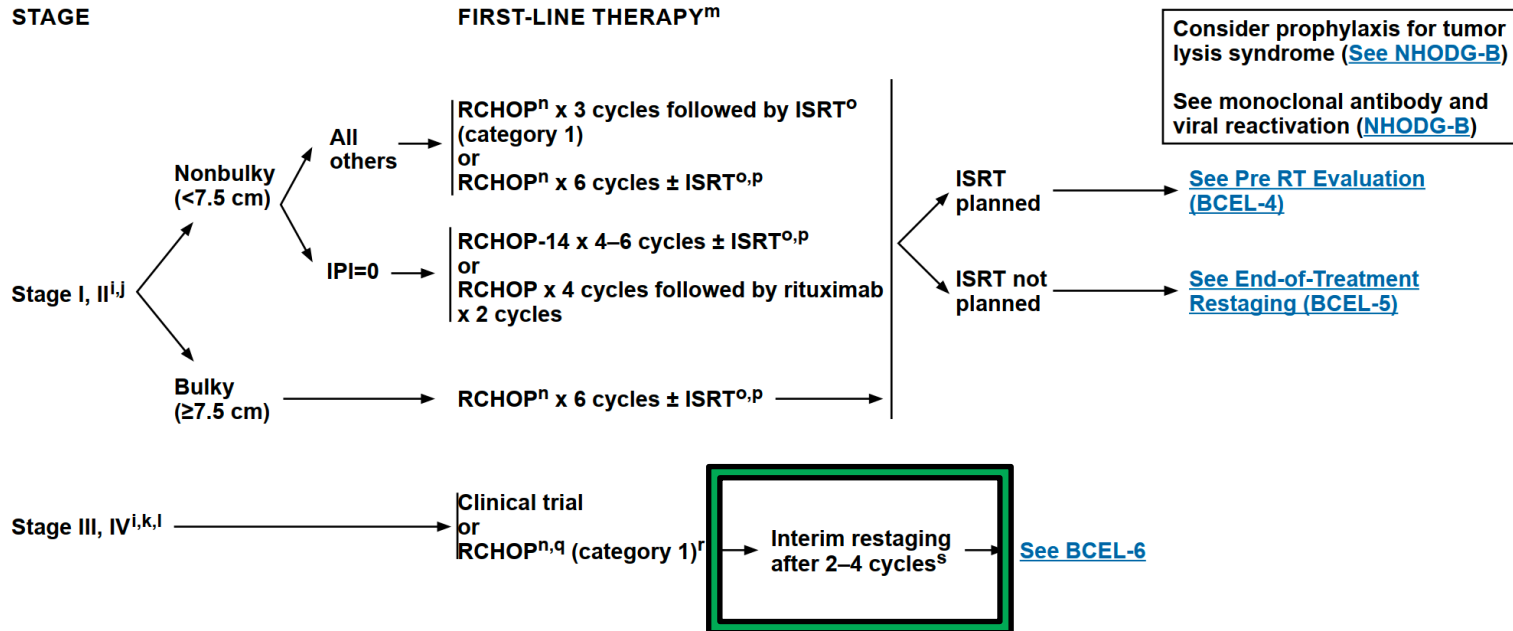
Classic Hodgkin Lymphoma^h

Stage I-II Favorable (Non-bulky)- Preference to Treat with Combined Modality Therapy

PRIMARY TREATMENT^{k,l}

(Modified from GHSG HD10,^m RAPID,ⁿ and EORTC H10^o)^p





ⁱ In testicular lymphoma, after completion of chemotherapy, scrotal RT should be given (25–30 Gy).

^j In patients who are not candidates for chemotherapy, ISRT is recommended.

^k [See Prognostic Model to Assess the Risk of CNS Disease \(BCEL-A 2 of 2\)](#).

^l Patients with systemic disease with concurrent CNS disease, [see BCEL-C](#).

^m Recommendations are for HIV-negative lymphoma only.

For HIV-positive DLBCL, [see AIDS-2](#).

ⁿ [See BCEL-C](#) for regimens used in patients with poor left ventricular function, ve frail patients, and patients >80 years of age with comorbidities.

^o [See Principles of Radiation Therapy \(NHODG-D\)](#).

^p If RT is not used, interim staging after 3–4 cycles of RCHOP is appropriate to confirm response.

^q Based on current clinical trials, RCHOP is preferable due to reduced toxicities, but other comparable anthracycline-based regimens are also acceptable ([see BCEL-C](#)).

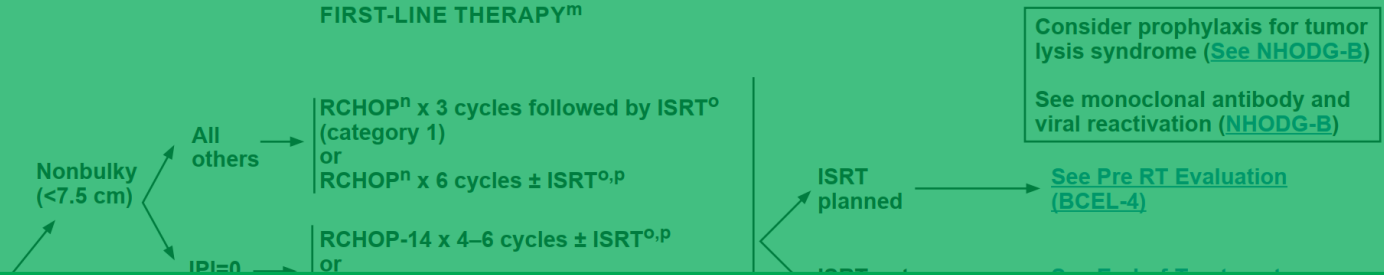
^r In selected cases, RT to initially bulky sites of disease may be beneficial

^s PET/CT scan at interim restaging can lead to increased false positives and should be carefully considered in select cases. If PET/CT scan performed and positive, rebiopsy before changing course of treatment.



STAGE

FIRST-LINE THERAPY^m



L'iTEP peut mener à une proportion augmentée de faux positif et devrait être considérée dans certains cas sélectionnés. En cas de iTEP positive, rebiopsier avant de changer le traitement

RCHOP^{n,q} (category 1)

interim restaging after 2-4 cycles^s

See BCEL-6

ⁱ In testicular lymphoma, after completion of chemotherapy, scrotal RT should be given (25–30 Gy).

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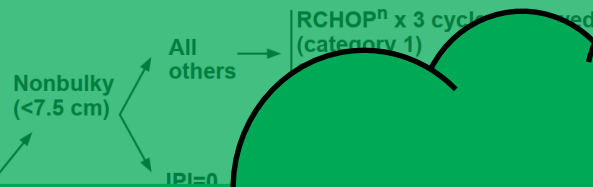
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STAGE

FIRST-LINE THERAPY^m



Consider prophylaxis for tumor lysis syndrome ([See NHODG-B](#))
See monoclonal antibody and viral reactivation ([NHODG-B](#))

[See Pre RT Evaluation \(BCEL-4\)](#)

L'iTEP peut mener à une faiblesse de faux positif et devrait être considéré dans les cas de iTEP positif.

Dans les études..

VPN >80%

VPP 15-70%

Il est recommandé de sélectionner les patients à réévaluer le traitement.

ⁱ In testicular lymphoma, after completion of chemotherapy, scrotal RT should be given (25–30 Gy).

^j In patients who are not candidates for chemotherapy, ISRT is recommended.

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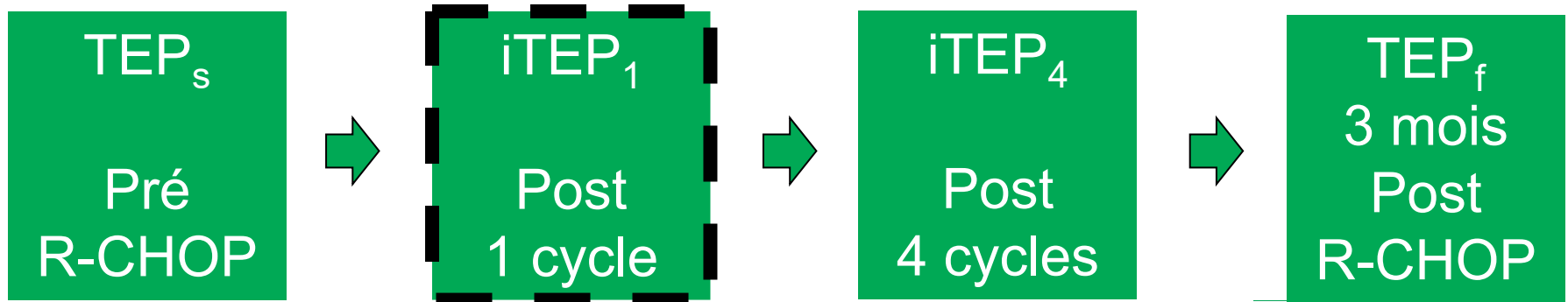
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OBJECTIFS

- Évaluer la valeur pronostique de la iTEP **après 1 cycle(iTEP₁) de R-CHOP** pour les patients avec LDGCB
- Évaluer la performance de la iTEP₁ pour identifier les non-répondeurs précocement
- Comparer les **paramètres quantitatifs** à l'échelle de Deauville

MÉTHODE

- Étude prospective(2005-2016)
- CIUSSS Estrie-CHUS
- Inclus:
 - LDGCB CD20+ de novo
 - Traitement R-CHOP
- Exclus:
 - LDGCB transformé
 - LDGCB déjà traité par chimiothérapie

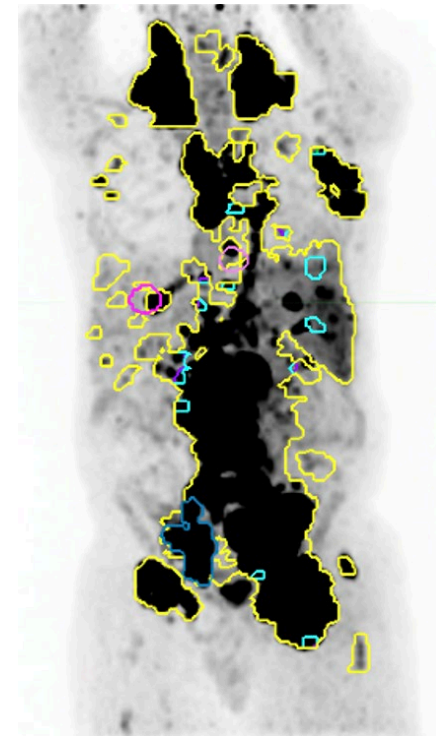


ISSUES(DONNÉES PRÉLIMINAIRES)



- Capacité de $iTEP_1$ de prédire TEP_f
 - Sens, Spec, Exactitude, VPP, VPN
- Survie à 1 an
- Survie sans progression 1 an

MESURES

- Paramètres quantitatifs
 - Lésion principale
 - $\Delta\text{SUV}_{\text{max}}$, $\Delta\text{SUV}_{\text{moyen}}$,
 - Fardeau métabolique
 - $\Delta\text{Volume métabolique}$, ΔTLG
- Échelle de Deauville
 - Grade 4 ad 3x activité hépatique



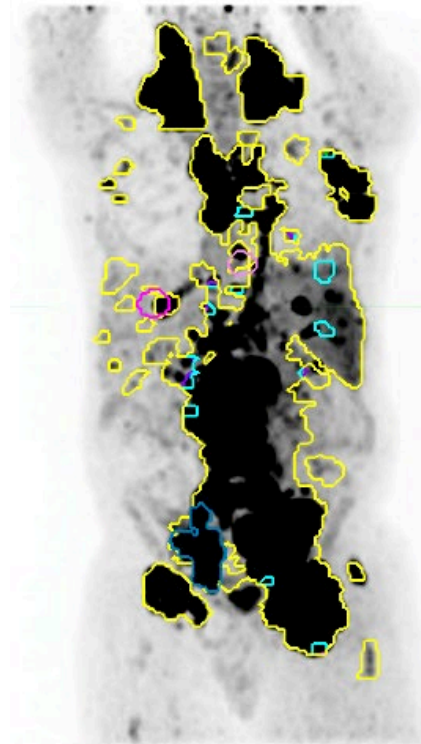
ÉCHELLE DE DEAUVILLE

Échelle de Deauville (D5PS)	
1	Pas de captation
2	Captation < AVM*
3	AVM < Captation < Foie
 4	Captation modérément > Foie
 5	Captation nettement > Foie
*AVM = Activité vasculaire médiastinale	

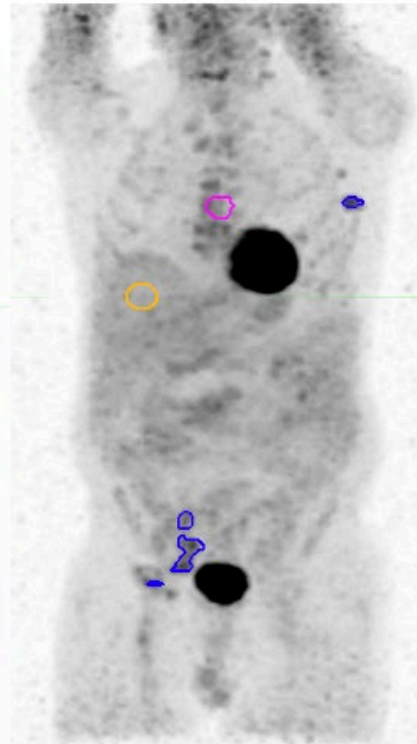
POPULATION

Nombre de patients	
N	77
Age au dx	
Médiane	64,6 ans
IQR	58,4 à 71,2 ans
Sexe	
Homme	21/77 (27%)
Femme	56/77 (73%)
Stade	
1	11 (14%)
2	11 (14%)
3	16 (21%)
4	39 (51%)
Sous-type	
GCB	40/72 (56%)
ABC	32/72 (44%)
Suivi clinique	
Médiane	4,5 ans
IQR	1,1 à 7 ans

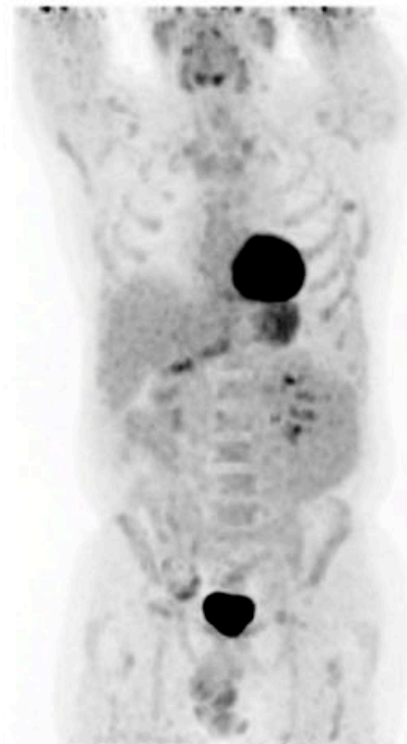
EX: RÉPONDEUR



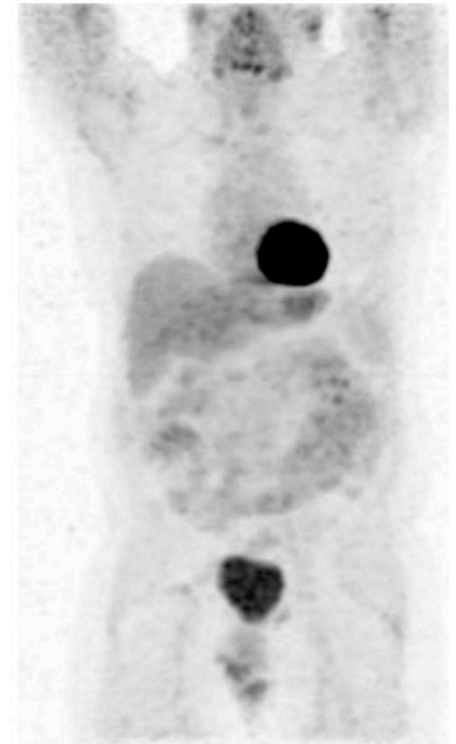
Pré R-CHOP



Post 1 cycle

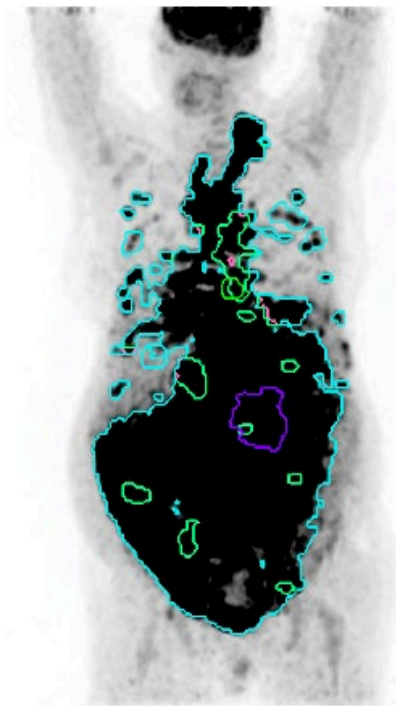


Post 4 cycles

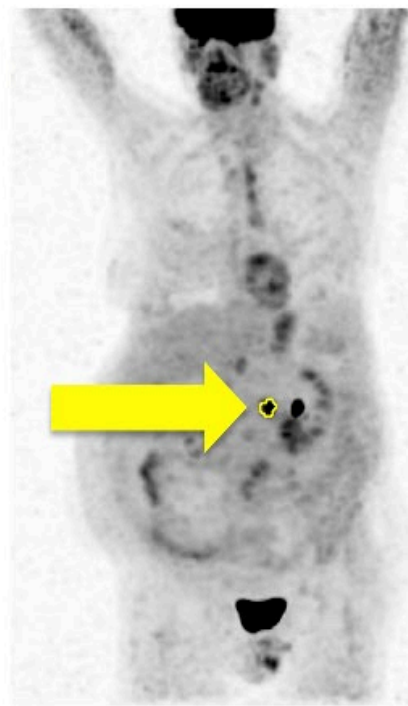


3 mois après
fin R-CHOP

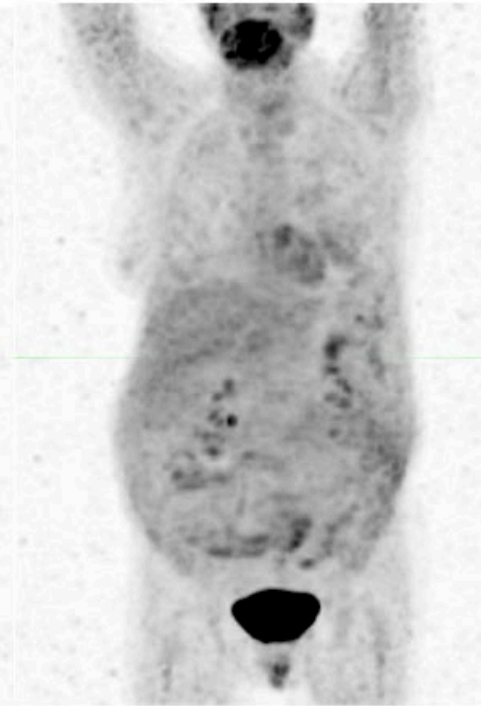
EX: NON-RÉPONDEUR



Pré R-CHOP



Post 1 cycle



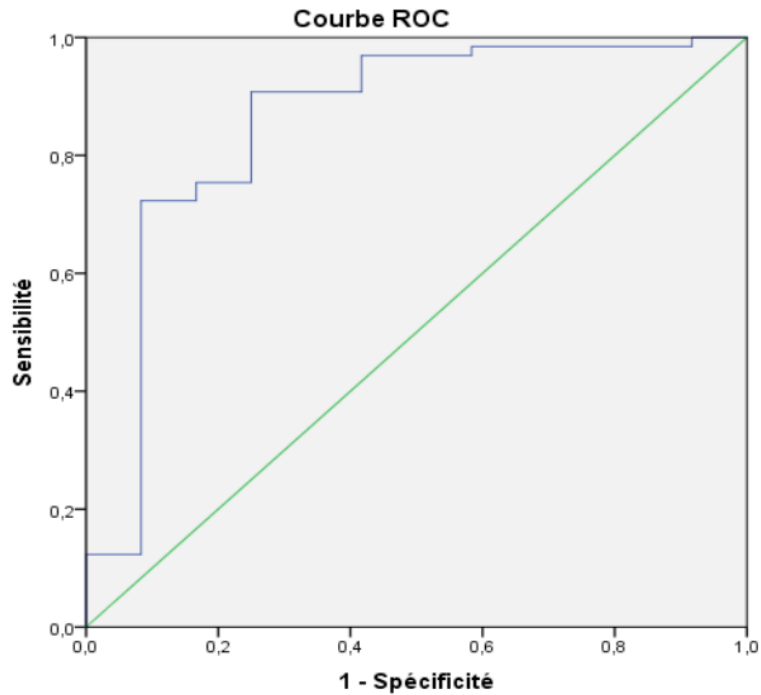
Post 4 cycles



3 mois après
fin R-CHOP

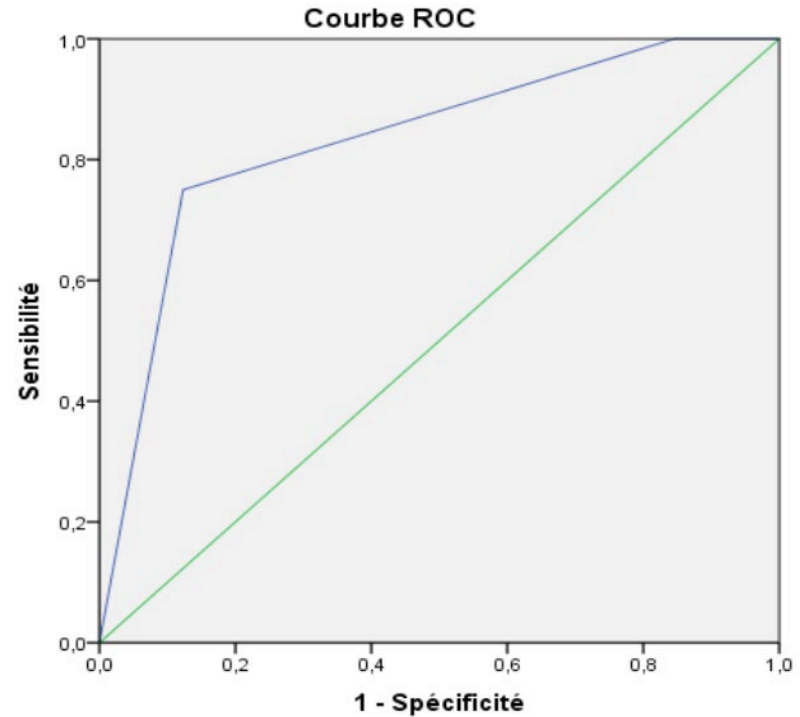
RÉSULTATS

Δ SUVmax lésion principale



AUC = 0,858 $p < 0,001$
Youden = 1,658 pour $\Delta 51\%$

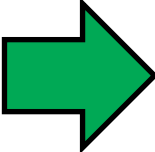
Échelle de Deauville



AUC = 0,833 $p < 0,001$
Youden = 1,627 pour Deauville 5

RÉSULTATS

	Δ SUVmax 51%	Deauville 5
Sensibilité	75%	75%
Spécificité	91%	88%
Exactitude	88%	86%
VPP	60%	53%
VPN	95%	95%



RÉSULTATS

- Afin de minimiser FP et FN
 - Ajout 2^e seuil ΔSUV_{max} (lésion principale)
 - Non-Répondeur: <30%
 - Répondeur: >72%

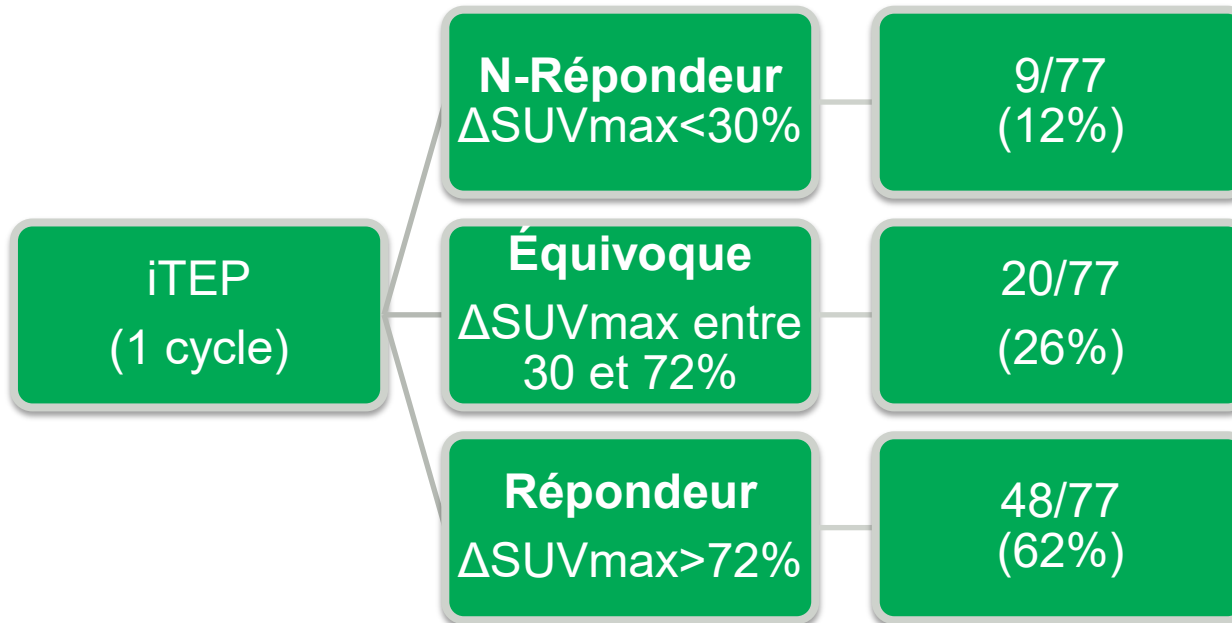
	N Répondeur	Répondeur	Σ
<30%	7	2 (FP)	9
>30%	5	63	68
	12	65	77

VPP=78%

	N Répondeur	Répondeur	Σ
<72%	11	18	29
>72%	1 (FN)	47	48
	12	65	77

VPN=98%

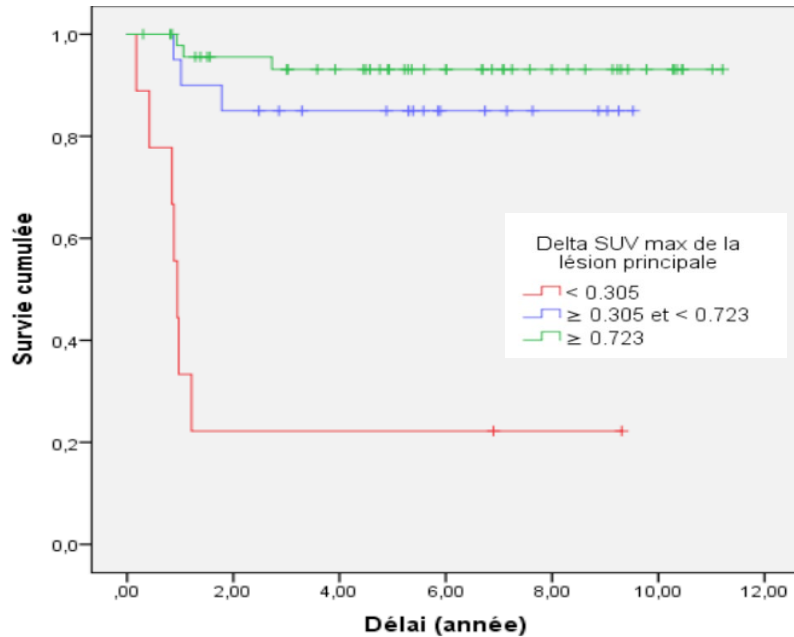
RÉSULTATS



- Identifie 74% des patients
 - Sensibilité 88%
 - Spécificité 96%
 - Exactitude 98%

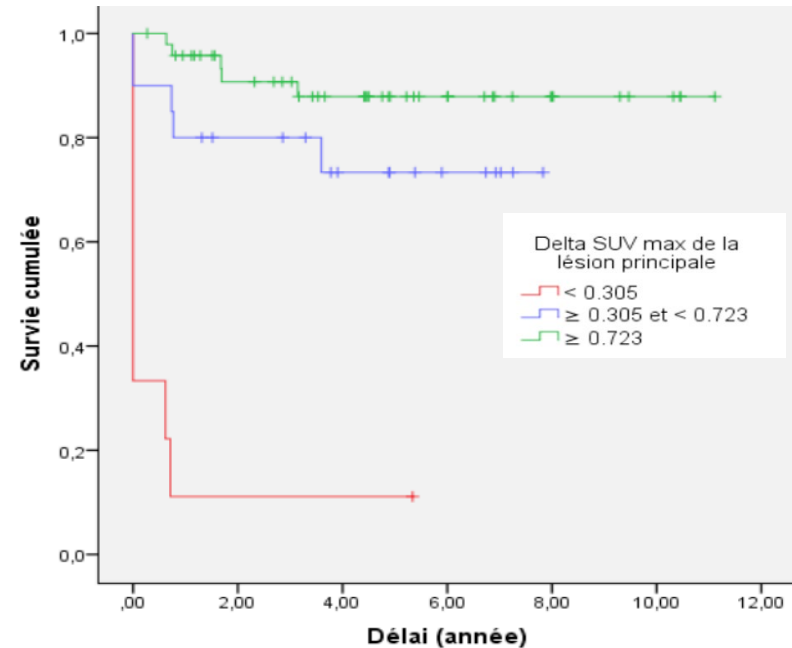
RÉSULTATS

Survie à 1 an



ΔSUV_{max}	Survie à 1 an
<30% (N-Répondeur)	33%
30 à 72% (Équivoques)	95%
>72% (Répondeurs)	98%

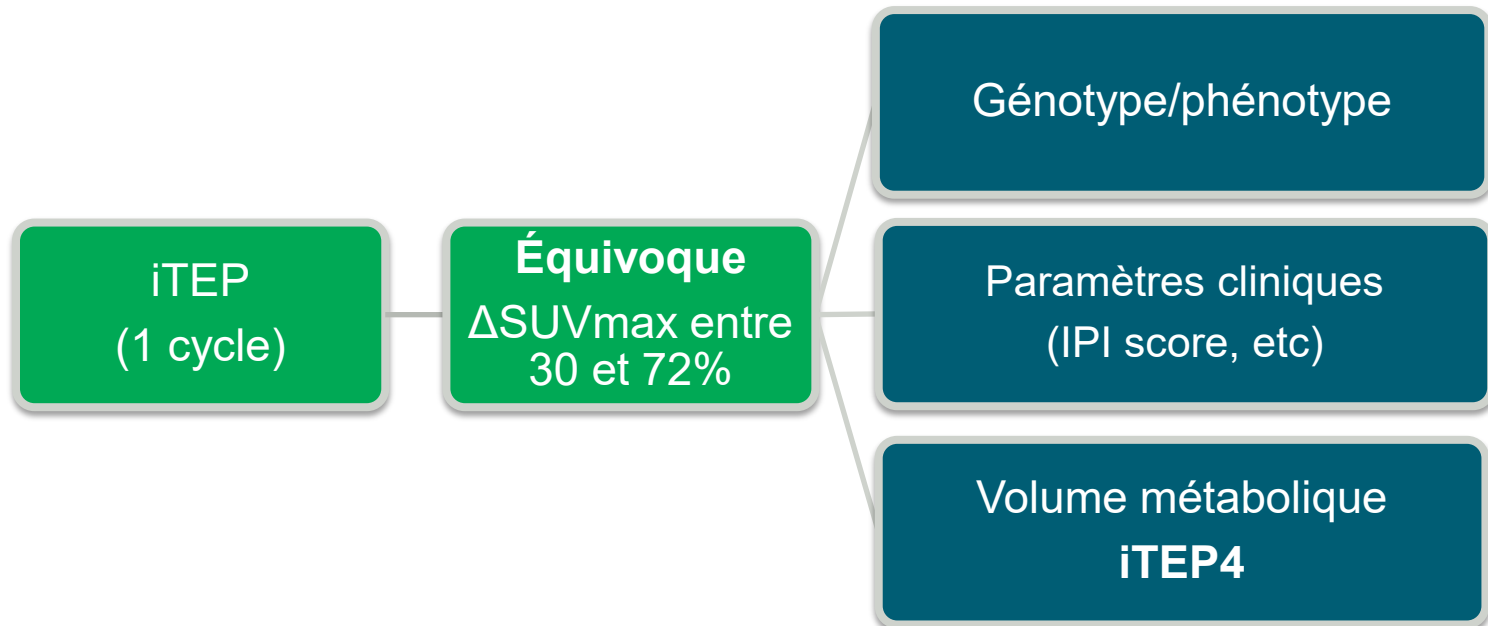
Survie sans progression à 1 an



ΔSUV_{max}	Survie sans progression à 1 an
<30% (N-Répondeur)	11%
30 à 72% (Équivoques)	80%
>72% (Répondeurs)	96%

DISCUSSION

- ΔSUVmax à 1 cycle avec 2 valeurs seuil est une approche inédite
 - **Identification optimale** des non-répondeurs
 - **Précoce** (post 1 cycle)



CONCLUSION

CLINICAL TRIALS AND OBSERVATIONS

Comment on Schöder et al, page 2224

Δ SUVmax for interim PET in DLBCL: old is new

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Lacassagne Cancer Center

 **blood**[®] 18 JUNE 2020 | VOLUME 135, NUMBER 25



5

Après l'échelle de Deauville ... les critères de Sherbrooke ?

QUESTIONS

REMERCIEMENTS

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- Dr Éric Turcotte