

BONNES PRATIQUES EN ECHO-ENDOSCOPIE DIAGNOSTIQUE

1. Introduction

Les premières descriptions de l'échoendoscopie linéaire datent de 2003 (75). Il s'agit d'un endoscope à l'extrémité duquel est placée une sonde d'échographie miniaturisée. Cette technique permet de réaliser des ponctions en temps réel en visualisant en même temps l'image endobronchique et échographique. Elle permet d'explorer les stations 2R, 2L, 3P, 4R, 4L, 7, 10R, 10L, 11R, 11L, 12R et 12L et les lésions au contact de l'arbre trachéo-bronchique. Le mode doppler permet de visualiser les structures vasculaires adjacentes.

2. Pré-requis : Cartographie des adénopathies (annexe 3)

Les classifications de Naruke (76) et Mountain & Dressler (77) ont été actualisées par l'*International Association for the Study of Lung Cancer* (IASLC) afin d'harmoniser la nomenclature des adénopathies (78).

Quelques remarques :

- Les stations ganglionnaires sont regroupées en zones.
- La limite entre les stations para-trachéales droites et gauches est déplacée jusqu'au bord latéral gauche de la trachée.
- Les limites des stations sont désormais clairement définies, notamment les stations 2 et 4. La limite inférieure de la station 2R est définie par l'intersection entre le bord inférieur du tronc veineux brachio-céphalique gauche et la trachée. Le bord inférieur de la station 4R est défini par le bord inférieur de l'azygos. A gauche, la limite inférieure de la station 2 correspond au bord supérieur de la crosse de l'aorte et celle de la station 4 au bord supérieur de l'artère pulmonaire gauche.

3. Aspects techniques

3.1 Anesthésie et voie d'insertion :

L'écho-endoscopie bronchique est pratiquée sous anesthésie locale ou générale selon les centres. L'endoscope est inséré par voie endonasale, orale, ou via un masque laryngé ou une sonde d'intubation oro-trachéale (rendant difficile l'accès aux aires 2 et 4) (79).

3.2 Critères échographiques de malignité :

Il n'existe pas de critère échographique suffisamment fiable pour s'abstenir d'une confirmation histologique. On peut malgré tout s'aider de certains critères pour optimiser le choix des adénopathies à prélever (79). Une adénopathie arrondie, avec des contours distincts, une échogénicité hétérogène et de la nécrose centrale sont des caractéristiques échographiques en faveur de malignité. Lorsque ces 4 critères sont absents, les adénopathies sont bénignes dans 96% des cas (80). La forme arrondie est un critère de malignité fréquemment retrouvé (80–83).

Le critère de taille a également été étudié. Certaines études établissent un lien entre une adénopathie de taille augmentée et la présence de cancer (81,82) ce qui n'est pas confirmé par d'autres (80,84). Cela est probablement lié à l'utilisation de cut-off de tailles différentes.

La vascularisation permet également de suspecter la présence de malignité. L'absence de vascularisation ou la présence d'un seul vaisseau central sont des critères en faveur de bénignité (84,85). Inversement, une hypervascularisation sera suspecte de malignité (85).

3.3 Modalités de prélèvements

Les prélèvements sont effectués avec une aiguille de 21, 22 Gauge (79) ou 19 Gauge (Olympus). Même si les prélèvements obtenus avec les aiguilles de 19G sont de plus grandes dimensions, le diamètre de l'aiguille n'influence pas les performances diagnostiques de l'écho endoscopie bronchique (86).



Lors d'un staging ganglionnaire médiastinal, au minimum, les stations 4R, 4L et 7 doivent être explorées et ponctionnées si une adénopathie mesure 5 mm ou plus (87,88).

Pour éviter une contamination liée à l'utilisation de la même aiguille tout au long de l'examen, les ponctions sont réalisées successivement sur les sites N3 puis N2 puis N1 (87).

Le nombre optimal de ponctions par adénopathie est au minimum de 3, permettant d'obtenir une sensibilité de 95,3% et une valeur prédictive négative de 97,6% (89).

L'application d'une aspiration ne semble pas modifier les performances de l'examen (90). En cas de prélèvement avec aspiration, si la ponction est hémorragique ou que l'on visualise des vaisseaux dans le ganglion à prélever, on peut réaliser les prélèvements sans aspiration (79).

3.4 Critères qualités des prélèvements

Un prélèvement est considéré comme contributif lorsqu'il met en évidence des lymphocytes (91).

3.5 Rapid On-Site Evaluation (ROSE)

L'analyse directe du matériel de ponction sur place par un cytopathologiste permet de diminuer le nombre de ponctions réalisées sur la cible principale (92,93) ainsi que le nombre de sites prélevés lorsque l'examen est réalisé à visée diagnostique (92). Cette technique n'améliore pas les performances diagnostiques de l'écho-endoscopie (94) et ne diminue pas la durée de la procédure. Elle peut permettre de diminuer les procédures annexes (95) et de vérifier la présence de matériel en quantité suffisante pour les recherches de biologie moléculaire.

3.6 Biologie moléculaire

Plusieurs études ont montré qu'il est possible de réaliser les recherches d'altérations oncogéniques de manière fiable et reproductible (96). Il est également recommandé de réaliser des ponctions supplémentaires dans ce but (79,97). Les prélèvements obtenus par écho-endoscopie bronchique permettent aussi de réaliser les techniques de NGS (98). L'écho-endoscopie est un examen qui peut s'avérer utile dans le cadre de re-prélèvement à la recherche des mécanismes de résistances des ITK dont la mutation T790M (99,100). La rentabilité de l'écho-endoscopie bronchique dans cette indication est influencée par les traitements antérieurs. Les antécédents de radiothérapie thoracique diminueraient les performances de cette technique (sensibilité de 83% et valeur prédictive négative à 76,5%) (101).

3.7 Programmed Death Ligand 1 (PDL1)

Les prélèvements cytologiques permettent une analyse de PDL1 dans environ 90% des cas (102,103). Il est également recommandé de réaliser des ponctions supplémentaires dans ce but (98).

Des études récentes confirment la concordance des résultats entre des prélèvements histologiques et cytologiques sur cytoblocs sous réserve de la présence d'au moins 100 cellules tumorales analysées, (104–106). Cette donnée devrait donc apparaître sur les comptes-rendus anatomopathologiques.

Néanmoins, l'hétérogénéité intra-tumorale d'expression de PDL1 peut expliquer certaines discordances entre les résultats histologiques et cytologiques (107,108).



Recommandations

- Il est recommandé de réaliser l'écho-endoscopie bronchique sous sédation modérée à profonde.
- Pour un staging médiastinal, les stations 4R, 4L et 7 au minimum doivent être explorées et ponctionnées si une adénopathie est \geq à 5 mm.
- Les ponctions doivent être réalisées des stations N3, à N2 puis N1 (consensus).
- Les caractéristiques échographiques des adénopathies peuvent être utilisées pour évaluer le potentiel tumoral d'une adénopathie, mais un prélèvement doit toujours être obtenu pour confirmer un diagnostic (consensus).
- L'écho-endoscopie bronchique peut être réalisée avec ou sans ROSE.
- En l'absence de ROSE, il est recommandé de réaliser 3 ponctions par ganglion (consensus).
- Des prélèvements supplémentaires sont recommandés en cas de nécessité d'analyse de biologie moléculaire, NGS, et de détermination du PDL1.



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