DCI	Nom Commercial	Posologie	Forme	Remarque
Lénograstim rHu G-CSF	GRANOCYTE®	150 µg/m²/j SC 24h après la fin de la chimiothérapie et jusqu'à restauration du compte cellulaire (sans dépasser 28j)	A reconstituer	Produit par la technique de l'ADN recombinant dans des cellules d'ovaire de hamster chinois (CHO)
Filgrastim Facteur methionylé rHu G-CSF (35)	ACCOFIL®* BIOGRASTIM®* NEUPOGEN® NIVESTIM®*[c] RATIOGASTRIM®* TEVAGRASTIM®* ZARZIO®* TEVAGRASTIM®*	5 µg/kg/ j SC entre J+1 et J+3-4 après la fin de la chimiothérapie et jusqu'à la période du post-nadir	Seringues préremplies	Produit par la technique de l'ADN recombinant sur *Escherichia coli*
Pegfilgrastim	NEULASTA® PELGRAZ®* PELMEG®* ZIEXTENZO®*	1 injection de 6mg SC / cycle de chimiothérapie 24h-72h après la fin de la chimiothérapie		Produit sur des cellules d'*Escherichia coli* par la technique de l'ADN recombinant suivie d'une conjugaison au polyéthylèneglycol (PEG)
(Lipegfilgrastim)§				

*rHu : recombinant humain - * indique un produit biosimilaire - § Non commercialisé en France*

Tableau 10 – Différents FCH disponibles en France.

2. Prophylaxie primaire par FCH

L'indication des FCH est basée sur l'estimation du risque de neutropénie fébrile exprimé en pourcentage.

Si le risque est supérieur à 20%, et s'il n'existe pas d'autre alternative de chimiothérapie aussi efficace mais moins risquée, l'administration prophylactique est recommandée (30,36). A l'inverse, si le risque est inférieur à 10%, les G-CSF ne sont pas recommandés.

Dans les protocoles pour lesquels le risque est compris entre 10 et 20%, la prescription est pondérée par la présence de facteurs de risque de neutropénie fébrile. Pour plus de simplicité, l'EORTC propose un arbre décisionnel pratique (cf. **Figure 1** et **Tableau 11**) repris par les recommandations MASCC/ESMO (33). Il faut également prendre en compte l'existence d'une situation infectieuse à risque (chirurgie récente, infection patente…) ainsi que les ATCD personels de chimio et/ou radiothérapie (qui sont particulièrement à risque de neutropénie) et qui pourront bénéficier d'une prophtlaxie primaire par FCH. Une étude est en cours dans cette situation à risque intermédiaire pour tenter d'identifier plus clairement les facteurs prédicitifs dans la vie réelle (37).

Il est intéressant de noter que le risque de neutropénie fébrile survient avant tout à la première cure (33,38), ce qui plaide pour l'utilisation des FCH en prophylaxie primaire (lorsque le risque de neutropénie le justifie), dès la première cure, notamment pour les cancers bronchiques à petites cellules (dans lesquels le risque d'envahissement médullaire est plus important).

Recommandations

Les FCH sont recommandés en prophylaxie primaire en cas de risque de neutropénie fébrile supérieur à 20% et s'il n'existe pas d'autre alternative de chimiothérapie aussi efficace mais moins risquée. Ils ne sont pas recommandés en dessous d'un risque de 10%. Dans les situations intermédiaires, il est recommandé de tenir compte des risques individuels liés au patient, à la maladie et à son traitement.

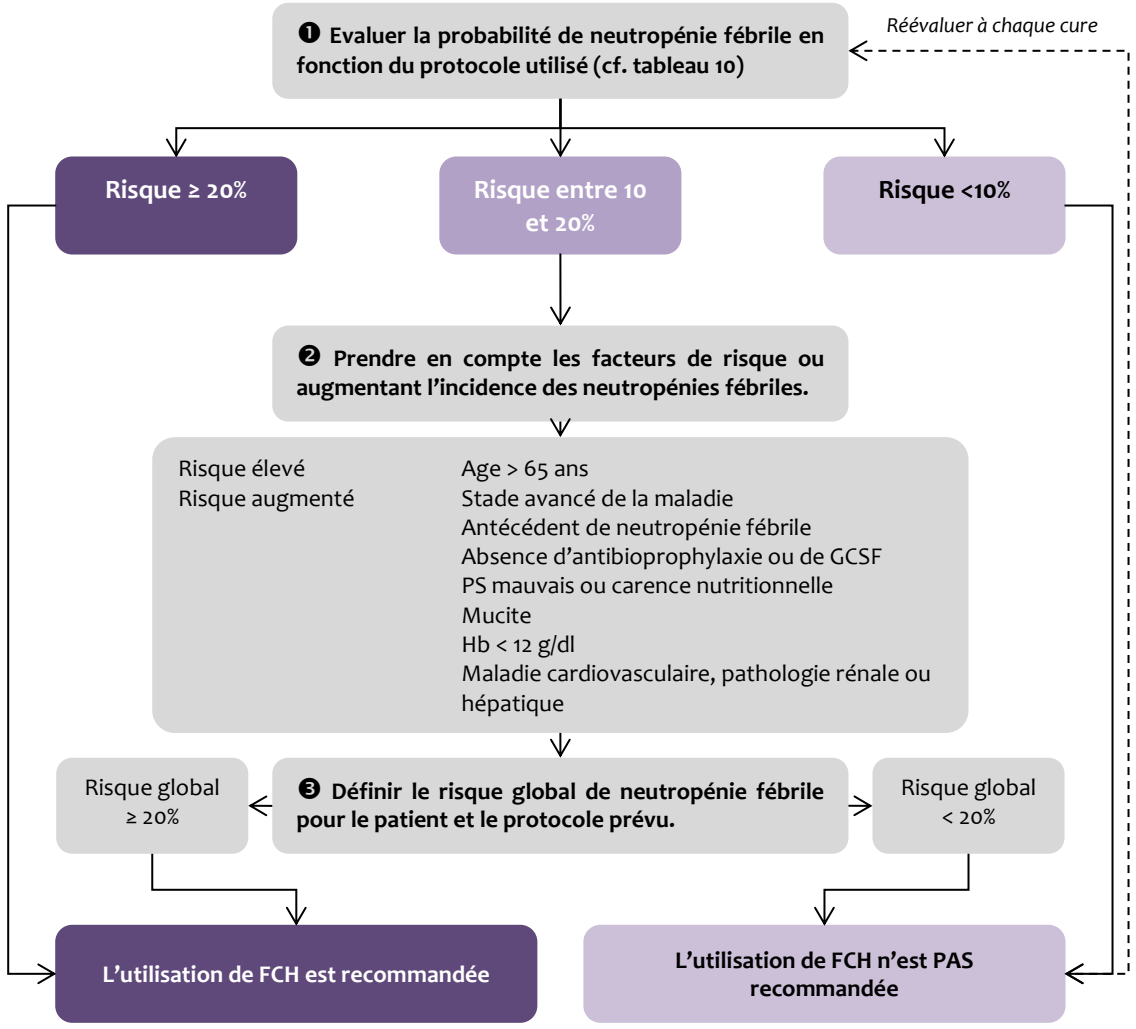

Figure 1 – Arbre décisionnel pour l'utilisation de FCH en prévention des neutropénies fébriles induites par la chimiothérapie, d'après les recommandations de l'EORTC, du MASCC/ESMO, et du NCCN (28,33,34).

Catégorie de risque	Protocole
> 20%	Topotecan IV
	Carboplatine-Docetaxel
	Cisplatine – Etoposide
10-20%	Carboplatine-Etoposide
	CAV
	Cisplatine-Paclitaxel
	Cisplatine-docetaxel
	Cisplatine – Vinorelbine
< 10%	Docetaxel
	Carboplatine-paclitaxel (Bevacizumab)
	Cisplatine-gemcitabine

Tableau 11 – **Risque de neutropénie fébrile en fonction du protocole de chimiothérapie utilisé en oncologie thoracique** (28,39,40)**.**

3. Prophylaxie secondaire (après un épisode de neutropénie à la cure précédente) par FCH

La prophylaxie secondaire (après une première neutropénie fébrile) est possible, mais n'a jamais démontré son intérêt par rapport à une diminution des doses de CT dans le domaine de la cancérologie pulmonaire. Dans les situations palliatives, cette dernière solution doit donc être préférée.

Les recommandations ASCO et MASCC/ESMO recommandent une prophylaxie secondaire par FCH dans les cas où une réduction de dose de chimiothérapie pourrait compromettre la survie, tout en rappelant que dans de nombreuses situations, la réduction de dose ou l'espacement des cures sont des alternatives raisonnables.

Dans ses recommandations, l'ESMO retient les arguments suivants comme étant des situations dans lesquelles il est possible de proposer une prophylaxie secondaire :

- Le risque d'infection à la prochaine cure peut engager le pronostic vital,
- Le niveau de réduction de dose pour éviter une récidive de neutropénie fébrile est trop important,
- Le risque de différer la prochaine cure est trop important,
- Le manque d'adhésion au protocole de traitement risque de compromettre les chances de guérison ou la survie.

En cas de neutropénie fébrile ou de limitation de dose lié au taux de polynucléaires neutrophiles malgré l'utilisation de FCH au cycle précédent, il faut alors considérer une réduction de dose ou un changement de protocole.

Recommandation

Dans les situations palliatives, le recours aux FCH en prophylaxie secondaire ne doit pas être systématique et il est préférable de considérer une diminution des doses de chimiothérapie.

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