# REAL-LIFE USE OF G-CSF IN PATIENTS WITH SMALL CELL LUNG CANCER (SCLC)

*SECONDARY DATA ANALYSIS FROM THE FRENCH NATIONAL COHORT ESCAP-2020 (ancillary study of KBP-2020)*


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## BACKGROUND

**Lung cancer is the leading global cause of cancer incidence and mortality, specially with small cell lung cancer.** It's also the **most common cancer type associated with febrile neutropenia (FN)**, a **severe complication** of chemotherapy associated **with increased morbidity and mortality**, that occurs in 10-40% of lung cancer patients undergoing chemotherapy[1,2,3,4,5].

**The aim of the current study is to describe the use of G-CSF, patients' characteristics in real life setting and their impact on survival in patients with Small Cell Lung Cancer (SCLC).**

## METHODS

We performed a **secondary data analysis focused on SCLC from ESCAP-2020 cohort (ancillary study of KBP-2020)**, real-life nationwide, prospective and multicenter French cohort studies conducted in patients diagnosed with primary lung cancer (LC). FN risk was assessed according to EORTC guidelines *(Table1)*.

- **KBP-2020 study is a real world prospective cohort** that included all patients diagnosed with LC (SCLC and NSCLC) in 2020, in a non-academic public hospital in France (n=8,999)[6].
- **ESCAP-2020 is an on-going ancillary study from the KBP-2020 study**, with a follow-up of 5 years (n=7,219), which allows the documentation of therapeutic strategies and characteristics of patients at risk of FN.
- G-CSF data were collected in the case report form (CRF); the definition of FN risk was based on EORTC Guidelines [5], French AURA Guidelines on LC [7,8] criteria according to chemotherapy regimen received and data collected in CRF *(Table 1)*.

In accordance with the study steering committee, only centers for which the rate of G-CSF prescribed was ≥ to 10% of the total number of patients included with SCLC have been considered for this analysis, totalling 39 centres nationally (n=4,135).

**Table 1: Definition of Febrile Neutropenia (FN) at-risk population in SCLC (EORTC Guidelines)**

| R20 - High FN risk<br>Chemotherapy regimens with risk of FN > 20% | R10 – Intermediate FN risk*<br>Chemotherapy regimens with risk of FN between 10 and 20% |
|---|---|
| • Etoposide in monotherapy or associated with carboplatin.<br>• Cisplatin + Etoposide<br>• Cisplatin + Etoposide + durvalumab<br>• Carboplatin + Etoposide + durvalumab<br>• Carboplatin + Etoposide + atezolizumab<br>• Topotecan | • Carboplatin + Paclitaxel<br>• Carboplatin + Etoposide<br>• CAV<br>• Cisplatin + Paclitaxel<br><br>* For chemotherapy regimens associated with an intermediate risk of FN (10-20%), consider additional risk factors:<br><br>• Age > 65 years<br>• Advanced stage disease (III and IV), History of prior FN<br>• Poor nutritional status and/or Performance status (PS) 3 and 4<br>• Female gender, Hemoglobin < 12 g/dl, Liver, renal, cardiovascular disease |

## RESULTS

**527 patients with SCLC** were included in our analysis, 335 (63.6%) received G-CSF prophylaxis for neutropenia (G-CSF +). Patients **in G-CSF+ group** vs G-CSF- showed a **younger age at diagnosis** (mean 66.7 years vs 69.5 p<0.001), a **better general condition**, (PS 0-1 in 74.8% vs 55.1% p<0.0001), more active or former-smokers (67.2%, 29.6% vs 62.5%, 28.6% p = 0.023) *(Table 2)*.

In this analysis, **447 (84.8%) patients with SCLC were considered at high-risk of FN>20%** and received chemotherapies regimens with a risk of FN >20%. Among them, **318 (71.1%) received G-CSF prophylaxis and (28.9%) didn't**, while some patients not considered at high-risk of FN received G-CSF *(Table 3)*.

The median survival among FN at-risk patients, was 11.0 [10.0 - 11.9] months in the G-CSF+ group vs 7.8 [6.1 - 10.8] in G-CSF- group; *(Table 4)*. A **better Overall Survival (OS)** (Figure 1) **was shown for G-CSF+ group at 6 months** 75.8% [71.2 - 80.6] vs 58.9% [51.0 - 68.0] beyond 6 months the benefit on OS is overshadowed by the poor prognosis of SCLC.
In multivariate analysis considering age at 65 years old as risk factors, G-CSF prophylaxis had an impact on survival benefit in patients with metastatic SCLC: HR 0.78 (0.61, 1.01), p=0.05 and in patients with PS ≥ 2 HR 0.48 (0.33, 0.72) p <0.001.

**Table 2: SCLC patients characteristics according to G-CSF use**

| SCLC<br>N=527 | G-CSF+<br>N=335 (63.6%) | G-CSF-<br>N=192 (36.4 %) | p |
|---|---|---|---|
| Mean age (years) | 66.7 | 69.5 | p<0.001 |
| PS 0-1 | 74.8% | 55.1% | p<0.0001 |
| Active<br>Ex-smokers | 67.2%,<br>29.6% | 62.5%,<br>28.6% | P=0.023 |

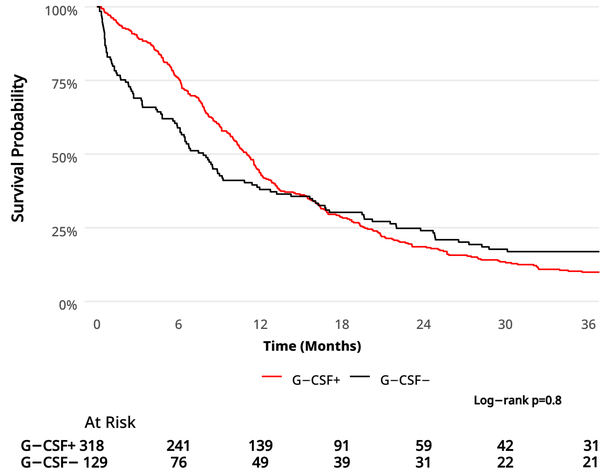
**Table 3: SCLC patients characteristics according to FN risk and G-CSF prophylaxis**

| SCLC<br>N=527 | High-risk of FN>20%<br>**N=447 (84.8%)** | Not high-risk of FN <20%<br>N=80 (15.2%) | p |
|---|---|---|---|
| G-CSF prophylaxis (G-CSF+) | **318 (71.1%)** | 17 (21.3%) | |
| No G-CSF prophylaxis (G-CSF-) | **129 (28,9%)** | 63 (78.7%) | |

**Table 4: Median survival among SCLC patients with high-risk of FN**

| SCLC | Median of survival (in months) [95% CI] |
|---|---|
| G-CSF+ (N=318) | 11.0 [10.0 - 11.9] |
| G-CSF- (N=129) | 7.8 [6.1 - 10.8] |

**Figure 1 – Overall survival in SCLC patients at risk of FN according to G-CSF prophylaxis**




## CONCLUSION

G-CSF prophylaxis is recommended when the overall risk of febrile neutropenia (FN) due to regimen and individual patient factors is ≥20%. **This study shows in real life setting, prophylactic G-CSF are used in 2/3 of patients with SCLC receiving chemotherapy regimen with high risk of FN according to guidelines. The benefits of G-CSF on survival are confirmed for the most severe patients, those at metastatic stage and PS ≥ 2.**

The data used for the analyzes in this poster were provided from KBP-CPHG database. The data sources are the exclusive property of the CPHG. However, the poster results and analyzes are therefore the sole responsibility of the authors.


1.Zhou J, et al. Cancer epidemiology. 2024; 2.Aagard T and al. Cancer Medicine. 2020; 3.Klastersky J et al. Ann Oncol 2016; 4.Lanoix et al. BMC Infectious Diseases 2011; 5.Aapro MS, et al. Eur J Cancer. 2011 Jan; 6.Debieuvre D, et al. Lancet Reg Health Eur. 2022 Aug; 7.Falchero L, et al. Cancers bronchiques à petites cellules. Référentiels Auvergne Rhône-Alpes en oncologie thoracique 2023; 8. Couraud S, et al. Cancer bronchique non à petites cellules.Référentiels Auvergne Rhône-Alpes en oncologie thoracique 2023.



**CONFLIT OF INTEREST**

The authors declare that they have no relation of interest with this abstract. K. Menia is Chugai Pharma France employee. Study sponsored by Chugai Pharma France.

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