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THE RATE OF NEUTROPENIC SEPSIS (NS) AND OTHER HAEMATOLOGICAL TOXICITIES IN PATIENTS WITH ADVANCED NON-SMALL CELL LUNG CANCER (NSCLC) TREATED WITH DOCETAXEL IN THE UK NHS: REVEAL-NS

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Introduction:

Following relapse after first-line chemotherapy, docetaxel is a standard of care for patients with advanced NSCLC, despite associated haematological toxicities, such as NS. This study assessed the docetaxel-related toxicities experienced by patients with NSCLC during routine UK clinical care.

Methods:

REVEAL-NS: a retrospective observational study of 121 patients from seven NHS centres. Patient eligibility: diagnosis of locally advanced/metastatic NSCLC; single-agent docetaxel initiated following relapse after (or intolerance to) ≥ 1 line of chemotherapy; age ≥ 18 years; docetaxel initiated ≤ 6 years, and stopped ≥ 30 days before data collection. Data collected from medical records included: demographics, clinical history, docetaxel treatment and haematological toxicity episodes, including NS. The three NS definitions used ('ANC ≤ 0.5 ', 'ANC ≤ 1.0 ' and 'suspected'), are shown in Table 1.

Results:

Median age at docetaxel initiation: 65 years (range:42-83); 70/121 patients (57.9%) were male and 24/121 (19.8%) alive when data collected. Sixty-three patients (52.1%, [CI:42.8%-61.2%]) experienced ≥ 1 haematological toxicity episode. Anaemia was the most frequently-recorded episode (38/80, 47.5%), then NS (all definitions) (22/80, 27.5%), and neutropenia without sepsis (20/80, 25.0%).

Proportions of patients experiencing ≥ 1 NS episode: $ANC \leq 0.5$: 10/121 (8.3%, [CI:4.0-14.7%]); $ANC \leq 1.0$: 11/121 (9.1%, [CI:4.6-15.7%]); suspected: 21/121 (17.4%, [CI:11.1-25.3%]), (not mutually exclusive).

Conclusion:

The observed NS rate for $ANC \leq 0.5$ was higher than previously reported in clinical trials (5.95%)¹, and was similar for $ANC \leq 1.0$, a threshold which may better reflect clinical practice. This, and the higher rate of suspected NS observed (requiring clinical management as NS, until confirmed diagnosis), indicates that docetaxel-related NS has a considerable clinical impact on patients with NSCLC, and poses a greater burden on NHS resources than previously described¹.

Study sponsored by Roche Products Ltd and managed by pH Associates Ltd.

¹Morgan A, Sutton A, Wailoo A (2007). The risks and costs of febrile neutropenia in patients with non-small cell lung cancer treated with docetaxel. NICE Decision Support Unit. Available at: <http://www.nicedsu.org.uk/PDFs%20of%20reports/Erlotinib%20DSU%20final%20report1.pdf>

Table 1: Definitions of neutropenic sepsis (NS) used in the study

Definition of neutropenic sepsis (NS)	Clinical description
$ANC \leq 0.5$	Absolute neutrophil count of 0.5×10^9 per litre or lower, and either a temperature higher than 38°C or other signs or symptoms consistent with clinically significant sepsis ¹
$ANC \leq 1.0$	Absolute neutrophil count of 1.0×10^9 per litre or lower, and either a temperature higher than 38°C or other signs or symptoms consistent with clinically significant sepsis
Suspected	Clinical suspicion of NS, irrespective of absolute neutrophil count, temperature, or presence of other signs or symptoms consistent with clinically significant sepsis

ANC: absolute neutrophil count

Note: denominator is stated where data unavailable for some patients; 95% confidence intervals [CI] presented where available