The impact of chemotherapy-induced side effects on medical care usage and cost in German hospital care--an observational analysis on non-small-cell lung cancer patients.

To evaluate frequency and severity of adverse drug reactions (ADRs) and its economic consequences after standard dose (immuno-)chemotherapy (CT) of non-small-cell lung cancer (NSCLC). Subanalysis of a prospective, multicentre, longitudinal, observational cohort study; data were collected from patient interviews and pre-planned chart reviews. Costs were aggregated per CT line and presented from provider perspective. A total of 120 consecutive NSCLC patients (mean age, 63.0 ± 8.4 (SD) years; men, 64.2%; ECOG (Eastern Cooperative Oncology Group) performance status<2, 84.3%; tumour stage III/IV, 85%; history of comorbidity, 93.3%) receiving 130 CT lines were evaluated. 80% of CT lines were associated with grade 3 or 4 ADRs, 22.3% developed potential life-threatening complications, 77.7% were associated with at least one hospital stay (inpatient, 63.9%; outpatient/day clinic 39.2%, ICU 6.9%), with a mean cumulative number of 12.8 (±14.0 SD) hospital days. Mean (median) toxicity management costs per CT line (TMC-TL) amounted to EUR3,366 (EUR1,406) and were found to be higher for first-line compared to second-line treatment: EUR3,677 (EUR1,599) vs. EUR2,475 (EUR518). TMC-TL were particularly high in CT lines with ICU care.
EUR12,207 (EUR9,960). Eight out of 11 ICU stays were associated with grade 3 or 4 infections. Nine CT lines with ICU care accounted for 25% of total expenses (EUR109,861 out of EUR437,580). In first-line NSCLC treatment, in particular, CT toxicity management is expensive. Asymmetric cost distribution seems to be triggered by infection associated ICU care. Its avoidance should reduce patients' clinical burden and have considerable economic implications. Nevertheless, comparative observational studies have to confirm estimated savings.