

Antithyroid drug-induced agranulocytosis: experience of the French Centers of Pharmacovigilance with a retrospective study of more than 200 cases

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OBJECTIVE

Agranulocytosis to the antithyroid drugs is a rare adverse drug effect exposure to potentially lethal infections. It is a public health problem with hyperthyroidism in nearly 1% of the French population. However, many uncertainties remain in the knowledge, understanding, prevention and management of this drug effect.

In this work, we report the French experience through pharmacovigilance data

PATIENTS AND METHODS

This is a retrospective study between 1980 and 2006 including 203 patients with documented agranulocytosis in one of three French licensed antithyroid drugs: carbimazol, benzylthiouracil, propylthiouracil. These patients were selected from the national pharmacovigilance database.

Data were analyzed and compared to the literature. Data were also analyzed according to the use or not of hematopoietic growth factors (G-CSF).

RESULTS

This study is one of the largest series ever collected on antithyroid drug-induced agranulocytosis. It primarily concerns carbimazol, leader antithyroid drug used in France.

It was noted an almost bimodal distribution with women over 65, but also young women aged 20-35 years. This distribution was explained by the fact that the majority of patients treated with antithyroid drug have Graves' disease.

Often nonspecific clinical presentations and low contribution of microbiological investigations highlight the difficulties of management. This adverse drug exposed to the often serious infectious complications and death in 8 % of cases.

Duration of agranulocytosis, neutropenia and hospitalization are very close if not superior in the group treated with G-CSF. Univariate analyzes showed no statistically significant association between the use of G-CSF and duration of agranulocytosis. Mortality was not statistically significant decreased in the G-CSF group: 4.6% versus 12.9%.

CONCLUSION

The data of this work and a critical review of the literature lead to useful practical recommendations for the prevention and the diagnostic and therapeutic management of this adverse drug effect.