

Occurrence of ATD-induced agranulocytosis and its treatment



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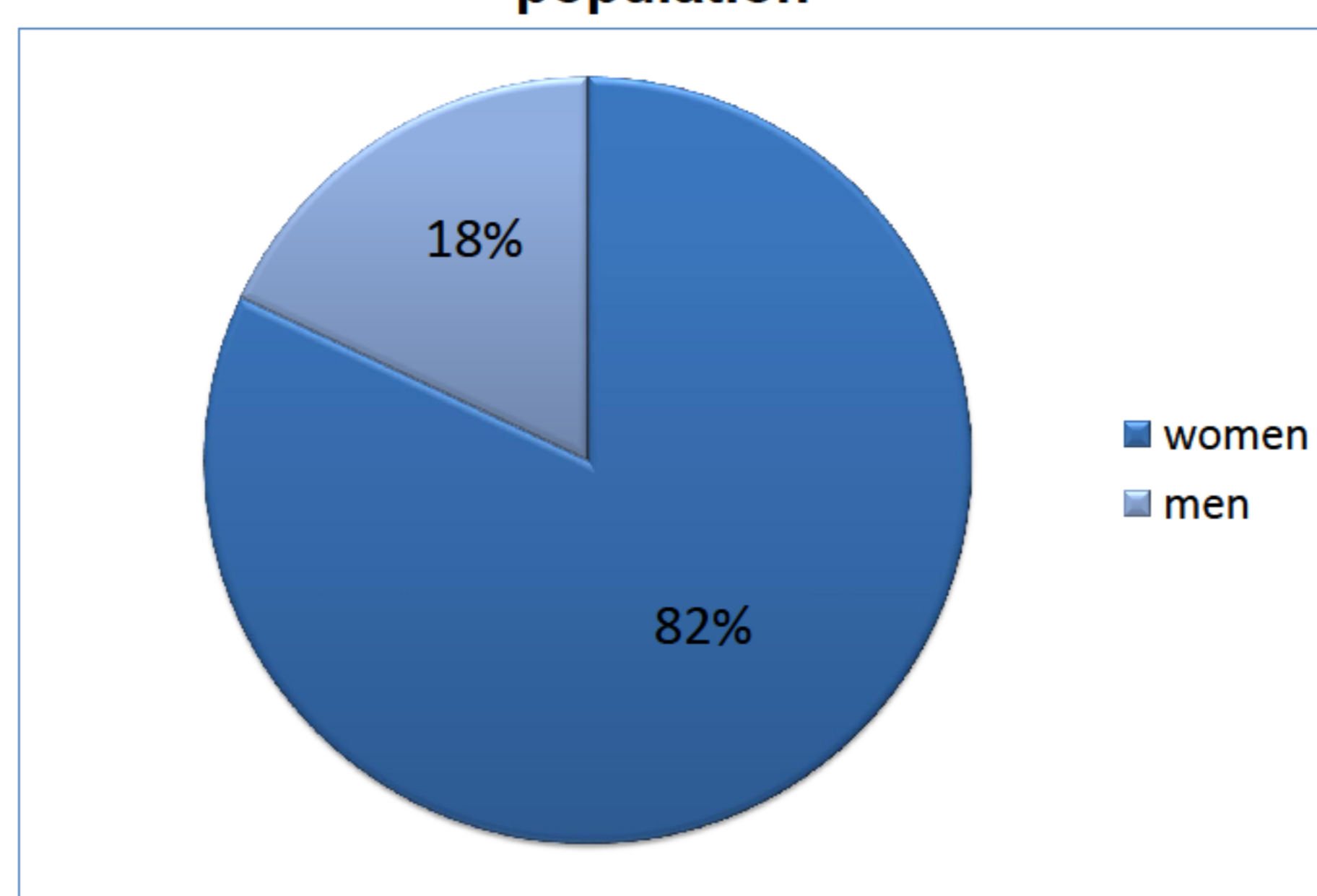
Introduction:

Agranulocytosis represents a serious complication of thyreostatic (ATD) treatment. The aim of our work was to determine how often did agranulocytosis occur in Graves' disease patients admitted to the thyroid treatment department of our clinic for RAI treatment between the years 1999 and 2014.

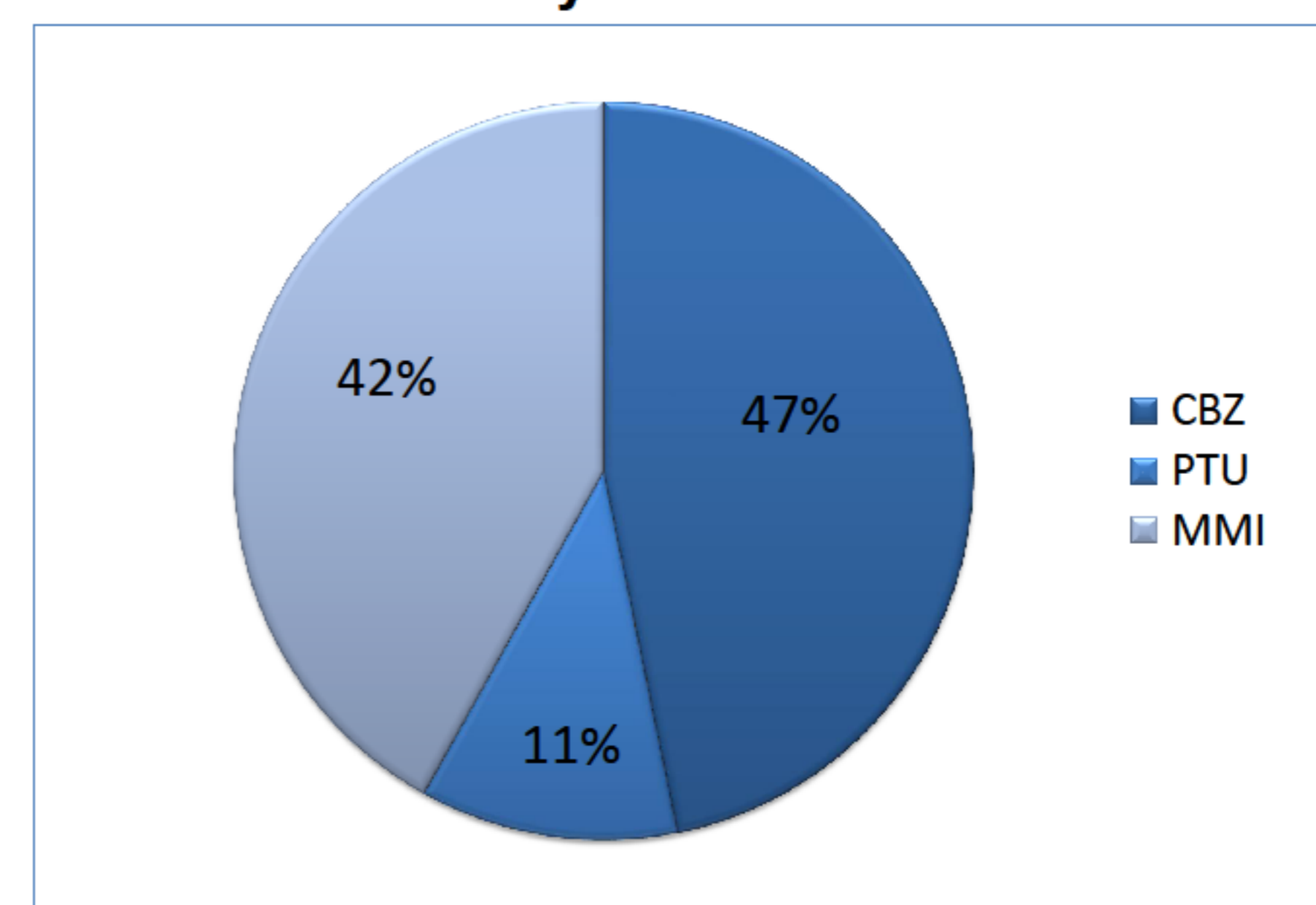
Patients and methods:

We have retrospectively analysed 699 patients (572 women and 127 men at the average age of 51.5 ± 12.9 years). 327 (47%) of them took carbimazole (CBZ), 293 (42%) took methimazole (MMI) and 79 (11%) took propylthiouracyl (PTU).

Proportional gender representation in our population



Breakdown of the population by the administered thyreostatics



Results:

Agranulocytosis was the reason for RAI treatment in 10 out of 699 patients. There were 9 women and 1 man affected.

Patients with agranulocytosis

patient no.	age [years]	T/C treatment [mg]	recalculation to Thyrozole [mg]	time till dg [days]	symptoms [YES/NO]	duration of agranulocytosis [days]	Neupogen applied [YES/NO]
1	44	30 T	30	37	YES	8	NO
2	31	15 C	9	20	YES	5	NO
3	78	15 C	9	41	YES	6	NO
4	23	30 T	30	28	NO	5	NO
5	72	15 C	9	35	NO	4	NO
6	36	40 T	40	23	YES	7	YES
7	57	30 T	30	31	YES	6	YES
8	29	20 T	20	85	YES	12	YES
9	55	40 T	40	35	YES	14	YES
10	85	10 T	10	48	YES	9	YES
average \pm std deviation	51.0 ± 21.9	T = Thyrozole	22.7 ± 12.9	38.3 ± 18.4		7.6 ± 3.2	
median (1.Q - 3.Q)	49.5 (32.3 - 68.3)	C = Carbimazole	25 (9.3 - 30)	35 (28.8 - 40)		6.5 (5.3 - 8.8)	

Patients without G-CSF stimulation

patient no.	age [years]	duration of agranulocytosis [days]
1	44	8
2	31	5
3	78	6
4	23	5
5	72	4
		$\bar{x} 5.6 \pm 1.5$

Patients with G-CSF stimulation

patient no.	age [years]	duration of agranulocytosis [days]
6	36	7
7	57	6
8	29	12
9	55	14
10	85	9
		$\bar{x} 9.6 \pm 3.4$

Conclusion:

The occurrence of agranulocytosis (1.43%) in our population of patients was higher compared to what the literary data indicate. In all the patients the agranulocytosis developed early in first three months. Application of G-CSF did not reduce the duration of agranulocytosis.