



## Original research

## The thyroid disease in the elderly: Our experience



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## ABSTRACT

**Introduction:** The number of elderly people in Italy is growing, so it is important to study the presentation of diseases in these subjects.

**Materials and methods:** We selected 1362 patients who underwent thyroidectomy for different thyroid diseases from January 2008 to December 2014. The patients were divided into two groups, according to the age. The patients aged 65 years and over were included in the group A, and the patients under the age of 65 years were included in the group B.

**Discussion:** Thyroid diseases in the elderly often present with atypical symptoms which are very similar to symptoms of the aging process. In elderly hypothyroidism occurs frequently sub-clinically and hyperthyroidism is often presented with cardiovascular symptoms. In our study we evaluated the differences in incidence of thyroid diseases in the elderly and in the younger groups of patients.

**Conclusion:** The data analyzed in this study showed that in the elderly we have a reduced secretion and metabolism of thyroid hormones. The symptomatology in the elderly is nonspecific and can create a delay in the correct diagnosis.

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## 1. Introduction

The growing number of older people in Italy requires the accurate study of the aging-associated diseases. Thyroid diseases are common endocrine disorders in the elderly with the prevalence of hypothyroidism. The abnormal function of the thyroid gland in older people can result from inadequate response of the thyroid gland to the metabolic changes which occur in the ageing body. The clinical presentation of thyroid diseases in the elderly is nonspecific and often can be confounded with symptoms of chronic illnesses such as asthenia, atrial fibrillation, depression, apathy, fatigue [1].

The medical and surgical care in the elderly subjects are more complex due to the presence of comorbidities and an increased risk of complications, therefore many surgeons prefer to delay the surgical treatment [2–4]. However several studies have shown that

the appropriate precautions help to perform the safe thyroidectomy with no increase in morbidity also in the elderly patients. The aim of this study was to investigate the incidence and clinical presentation of the thyroid diseases among the young and elderly population.

## 2. Materials and methods

The study was conducted at U.O.C. Endocrine Surgery "Policlinico G. Rodolico of Catania from January 2008 to December 2014". There were 1362 patients who underwent thyroidectomy for different thyroid diseases. All patients were subsequently divided into two groups, according to the age. The patients aged 65 years and over were included in the group A. The second group B included the patients under the age of 65 years. The group A consisted of 328 patients with female/male ratio of 3.6/1. The group B contained 1034 patients with female/male ratio of 3.2/1 (Table 1). The following parameters were registered: age, sex, hormonal status, antibodies status. Furthermore, all patients performed ultrasound, and in some cases fine needle aspiration cytology (FNA).

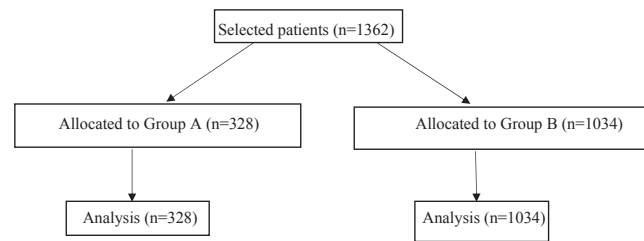
## 3. Discussion

Thyroid diseases in the elderly often present with atypical

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**Table 1**  
Flow Diagram.



symptoms which are very similar to symptoms of the ageing process [5]. Thyroiditis is a common thyroid pathology in the elderly and represent the main cause of aged hypothyroidism. Elderly hypothyroid patients may have fatigue, weight gain, constipation, muscle cramps, skin changes [10,11]. Also the coexistence of multiple chronic diseases as well as the side effects of medications can mimic or mask the symptoms and signs of hypothyroidism. In addition, in the elderly hypothyroidism occurs frequently subclinically.

The clinical picture of hyperthyroidism in the elderly is often significantly different from those in the young patients. The cardiovascular symptoms and signs predominate in this group of patients [6,7], moreover there is a higher risk of atrial fibrillation [8,9]. Other symptoms observed in older patients with hyperthyroidism include fatigue, anorexia, weight loss, apathy, depression. These symptoms are non specific and can be easily mistaken for normal ageing.

Instead, the classical symptoms and signs of hyperthyroidism in the younger patients include tremors, nervousness, hyperhidrosis, hyperactivity, hypocholesterolemia, slimming and exophthalmos.

Therapy in the elderly must be carefully assessed [12–17]. The safety of thyroid surgery in elderly patients remains controversial. Asymptomatic hyperthyroidism in the elderly is not an indication for thyroid surgery [18]. Rios et al. demonstrated that there were no differences in the postoperative morbidity and mortality between the aged and the younger groups when the patients were prepared carefully preoperatively and were operated with close monitoring of the co-morbidities [19].

In our study we evaluated the differences in incidence of thyroid diseases in the elderly and in the younger groups of patients. In both groups, goiter is the disease with the highest incidence and therefore the choice of therapy is very important. L-thyroxine, thionamides, surgery, radioiodine (I-131), and percutaneous ethanol injection (PEI) are effective in selected patients [20–22]. Also there was a high incidence of thyroiditis in the 65 and over group. Benign neoplastic diseases (adenomas) and papillary cancer were more commonly found in the younger group (Table 2).

**Table 2**  
Thyroid disease in the two groups.

Thyroid disease	Group A	Group B
Goiter	239	693
Adenoma	17	134
Thyroidcyst	7	5
Papillary cancer	10	113
Follicular cancer	8	12
Medullary cancer	5	2
Thyroiditis	21	29
Oncocytoma	3	1
Dysthyroidism	16	13
Recurrentgoiter	2	32

#### 4. Conclusions

The data analyzed in this study showed that in the elderly we have a reduced secretion and metabolization of thyroid hormones. The symptomatology in the elderly is nonspecific and can create a delay in the correct diagnosis. However, the diagnosis is facilitated by the fact of high frequency of thyroid diseases in the elderly. In the elderly, thyroid pathology can be treated surgically or pharmacologically but we must consider the possible side effects of drug therapy and complications of surgery.

#### Conflicts of interest

All Authors have no conflict of interests.

#### Sources of funding

All Authors have no source of funding.

#### Ethical approval

Ethical approval was requested and obtained from the Department of “Scienze Mediche, Chirurgiche e tecnologie Avanzate – G. F. Ingrassia”, University of Catania.

#### Author contribution

Matteo Angelo Cannizzaro: Participated substantially in conception, design, and execution of the study and in the analysis and interpretation of data; also participated substantially in the drafting and editing of the manuscript.

Antonino Buffone: Participated substantially in conception, design, and execution of the study and in the analysis and interpretation of data; also participated substantially in the drafting and editing of the manuscript.

Salvatore Lo Bianco: Participated substantially in conception, design, and execution of the study and in the analysis and interpretation of data; also participated substantially in the drafting and editing of the manuscript.

Valeriya Okatyeva: Participated substantially in conception, design, and execution of the study and in the analysis and interpretation of data.

Dario Cavallaro: Participated substantially in conception, design, and execution of the study and in the analysis and interpretation of data.

Valerio Caruso: Participated substantially in conception, design, and execution of the study and in the analysis and interpretation of data.

Pietro Caglia: Gave final approval of the manuscript.

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