ORIGINAL ARTICLE

Non toxic goiter in the adult population of Genoa: 10 years of experience

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Key words

Non toxic goiter • "Great Genoa" • Iodine deficiency

Summary

The aim of this study was to assess the prevalence of non toxic goiter, diffuse or nodular, in all Genoa's Country thyroid diseases. The Authors have studied one non-random casuistry of 1980 Patients observed from time to time in the last decade in Ambulatory of Nuclear Medicine (Department of Internal Medicine of University of Genoa) working with Section of Hygiene of ASL of Genoa.
Of 1980 patients, 1629 (83.63 %) were females; 351 (16.37%) were males, aged 14-7O years.
The mean age was 42.6 years. First observations regarded only born and old date residents in Genoa never subordinates to surgical. Actinic or pharmacological treatments to the thyroid. All patients have normal circulating hormones and TSH. Every subject was afflicted with un toxic goiter (diffuse, single nodular or multi nodular) assessed by clinical Examination, ultrasonography and thyroid uptake with 99mTc-pertechnetate.
This pathology represents now the 66.6% of all thyroid diseases observed.
The A.A. emphasized an absolute prevalence of non toxic goiter in females (84.2% of observations).
The enclosed tables are created divided the casuistry for age correspondents to the several decades (for the ll to VII the wais).
By means of the test of Kolmogorov-Smirnov we have shaped two delineating curves the frequencies.
Accumulated of feminine and male subjects. The results of our study support a advantage of the Females versus male subjects in the diffuse and in the multi nodular goiter, while in the Struma to Single nodular differences are meaningful absent.

Introduction

The most common thyroid disease in the community is simple (sporadic), goiter or not nodular.
The clinical of thyroid size is imprecise and subjective [1, 2] in epidemiological studies ultrasonography.
Has been used leading to much eigher estimates of goiter prevalence than in studies in wich goiter size was assessed by physical estimation [3-5].
Considerable regional variations in the incidence of goiter exist, even in non endemic goiter areas.
A higher prevalence of multinodular goiter is found in areas of iodine deficiency [6].
In cross-sectional surveys the prevalence of diffuse goiter declines with age; the greatest prevalence is in Premenopausal women and the ratio of women to men is at the least 4:1 [7, 8].
Longitudinal studies confirm the decreasing frequency of goiter with age.
In the 20 year follow-up, 10% of women and 2% of men had a golter, as compared respectively with 23% and 5% at the first survey [9].
The presence of diffuse goiter was not predictive of any clinical or biochemical evidence of Thyroid disfunction, in women an association was found between the development of a goiter and thyroid antibody status at follow-up, but not initially [7].
In follow-up study of 11 to 18-year old subjects in southwestern United States 60% of the 92 subjects who had a diffuse goiter initially had spontaneous regression by the age of 30 years [10].
Longitudinal data suggest an annual incidence of thyroid nodules of 1 per 1000, and that, once formed, they tend remain present for a long period of time [11].

Patients and methods

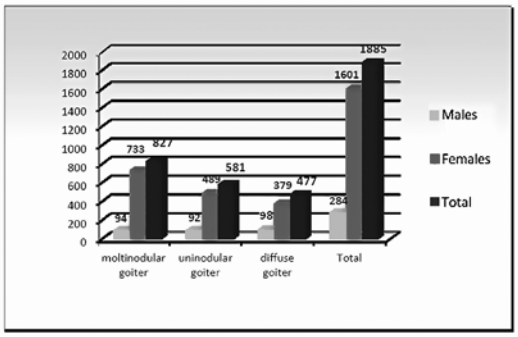
We introduce one casuistry of 1980 patients, aged 14-70 years (medium age 42,6 year; 1629 women, 351 males), observes in the last decade near to Ambulatory of Nuclear Medicine Division of Dimi-University of the Studies of Genoa.
For this study first observation been born and residents in Genoa are considered never subordinates
to surgical, actinic or pharmacological treatments to the thyroid, with normal circulating thyroid hormones and TSH.
Every subject was afflicted with simple goiter, diffuse, single nodular or multi nodular, assessed by both manual palpable, ultrasonography (using high-frequency transducers whit color-flow Doppler) and thyroid uptake and thyroid scintigraphy with 99mTcO4.
This pathology represents the 66.6% of all thyroid diseases ambulatory observed.

Results

It's emphasized an absolute prevalence of non toxic goiter in females (84.2% of observations) (Fig. 1).

Fig. 1. Number of thyroid diseases in our series.

Thyroid Pathologies	Males	Percentage by gender	prevalence %	Females	Percentage by gender	prevalence %	Total
moltinodular goiter	94	33,10%	11%	733	45,78%	89%	827
uninodular goiter	92	32,39%	16%	489	30,54%	84%	581
diffuse goiter	98	34,51%	21%	379	23,67%	79%	477
Total	284		15%	1601		85%	1885



Divided the casuistry for band of age correspondents to the several decades (for the II to VII the walls) it is recorded, in the females, a prevalence of multi nodular goiter with greater increment percentage in V the decade of age.

The females casuistry such percentage constitutes 44.8% (38.8% of the total casuistry of both sexes) followed from the goiter to single nodular (with percentages respective of the 31.5% and the 25.9%)and from the diffuse simple goiter (the 23.7% and 20.1 %), (Figs. 2, 2a, 2b).

The patients males are observed instead one high prevalence of the diffuse goiter species in IV the decade of age (5.2% of the entire casuistry, 34.5% of male casuistry) followed for the multi nodular Struma (5.00% and 33.1%) and for the Struma to single nodular (4.9% and 32.4%), (Figs. 2, 2a, 2b).

By means of the test of Kolmogorov-Smirnov we have shaped two delineating curves the frequencies accumulated of female and male subjects calculated based on the prevalence observed for bands of age respective for the diffuse goiter, single nodular Struma and multi nodular Struma. The course of the curves evidences statistically meaningful differences ($p < U.001$) a advantage of the females in the diffuse Struma and in the multi nodular Struma, while in the Struma to single nodular differences are meaningful absent.

Discussion

We think that these significant data, with limitations also tied to un random casuistry, can represent one meaningful appraisal of the course of non toxic goiter of the adult in the within of the "Great Genoa". The documented spread of the simple goiter, nodular or not nodular, also in coastal zone lacking in hotbed of endemic goiter [12-14] induces to confirm the necessity of the prevention of goiter by means of pediatric iodine prophylaxis lead according the universal criteria adopts from the OMS [15].

Fig. 2. Prevalence of thyroid diseases among groups.

Thyroid Pathologies	Males	prevalence %	Females	prevalence %	Total
moltinodular goiter	94	11%	733	89%	827
uninodular goiter	92	16%	489	84%	581
diffuse goiter	98	21%	379	79%	477
Total	284	15%	1601	85%	1885

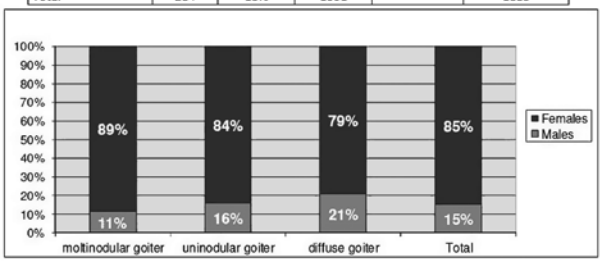


Fig. 2a. Prevalence of thyroid in females groups.

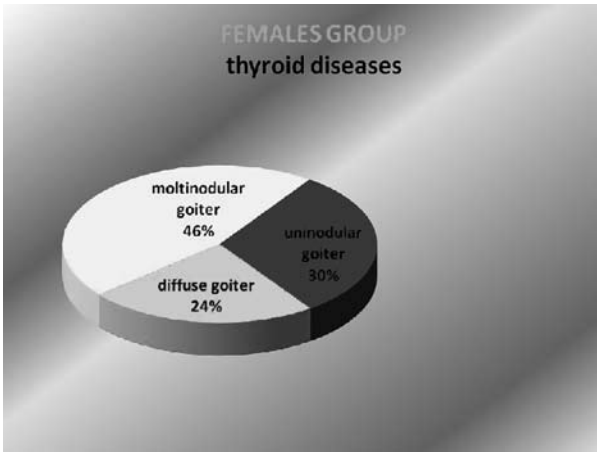
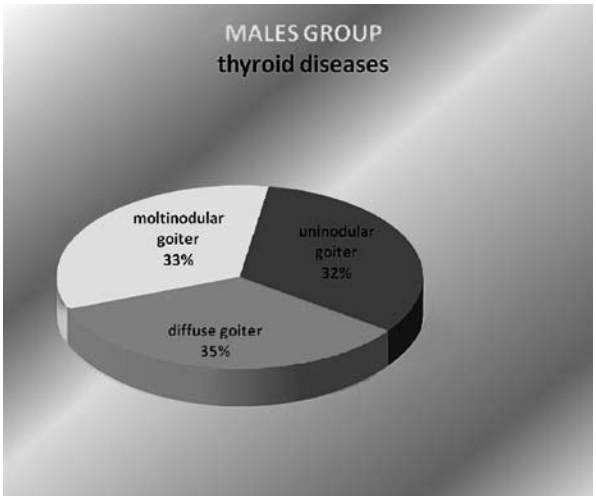


Fig. 2b. Prevalence of thyroid in males groups.



Such criteria to you could thus be synthetized: a) adequate consumption and provisions of it knows iodurate; b) control of the consumption anniversary of knows them iodurate; c) periodic appraisal of the ioduria on random

champions; d) periodic appraisal of the morbid affection correlate to the iodine deficiency and eventual an excessive iodine contribution.

An area is arbitrarily defined as an endemic goiter area if more than 5% of the children aged 6 to 12 years have a goiter. Goiter endemic should be described not only by the frequency of goiter but also by the severity of iodine deficiency. Revaluation of the problem, under the sponsorship of the European Thyroid association, clearly indicated that, with exception of some of the Scandinavian countries, Austria and Switzerland, most European countries we still iodine deficiency, especially in the south [16, 17]. Program origin at the sustainable elimination of iodine deficiency where their reinforced and implemented in many European countries. The data on iodine deficiency and their prevention in all Europe have been reviewed again [18, 19]. Evidence of marked improvement in the status of iodine nutrition was clearly shown; however, at least 18 countries Still have inadequate iodine nutrition.

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