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THE ASSOCIATION OF PRIMARY HYPERPARATHYROIDISM WITH DISORDERS OF THE THYROID GLAND AND CARPENTRY – OUR EXPERIENCE

Introduction

Primary hyperparathyroidism is a generalized disorder of metabolism of calcium, phosphate and bone caused by an increased secretion of PTH. (Harrison, Internal Medicine, 2004). It occurs as a result of adenoma, hyperplasia or parathyroid carcinoma. Adenoma of one or more of the parathyroid gland is considered the most common cause of this disease. . The most frequent localization of adenomas is lower parathyroid adenoma in zlezdama.I And in parathyroid hyperplasia is dominated by the main cell. (Harrison, Internal Medicine, 2004). The disease has the highest incidence between the third and fifth decade of life. (Harrison, Internal Medicine, 2004). Half or even more patients with primary hiperpartaireoidizmom are asymptomatic. Asymptomatic hyperparathyroidism is defined as documented hyperparathyroidism without signs or simotoma that characterizes this disease. (Harrison, Internal Medicine, 2004). Primary hyperparathyroidism is the third most common endocrine diseases with the highest incidence among women in the postmenopausal period. (Fraser W. Hyperparathyreodismus, Lancet 2009).

The leading character is hypercalcemia that occurs due to increased bone resorption, decreased urinary elimination of calcium and increased absorption in the intestine. In these patients, there is also calciuria, with an increased tendency to urolithiasis, then polyuria due to osmotic diuresis which leads to dehydration and loss of weight. (Reabsorption phosphate in the kidneys is reduced, which leads to hypophosphatemia and hiperfosfaturiji. The clinical picture depends on the value of parathyroid hormone and the degree of hypercalcemia. (Catherine Cormier, et al. Primary hyperparathyreodismus and osteoporosis in 2004).

Diagnosis of the disease is made based on elevated levels of PTH, elevated calcium levels and reduced levels of phosphate in the blood, ultarzvucnog inspection doors and parathyroid scintigraphy.

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A disorder of the thyroid gland material manifests as diffuse and nodular goiter, while disorders of the glands stiaeste reflected in terms of an increased and reduced function or hyper and hypothyroidism. (Harrison, Internal Medicine 2004).

Show connections with primary hyperparathyroidism disorder functions and structure of the thyroid gland.

Material and methods

The investigation included 33 patients diagnosed with primary hyperparathyroidism in a special hospital Cigota on Zlatibor, in the period from 1 January to 31 December 2014 year. For all patients, we performed ultrasound examination of the neck and kidney ultrasound equipment at General Electric Logiq 3, Dexa examination, the Hologic Explorer osteodensimeter, parathyroid scintigraphy (MIBI, technetium 99 M), the Siemens Orbiter Gamma camera, hormonal status stiaeste glands, chemiluminescence method the DPC apparatus, as well as levels of calcium, phosphorus (the ailable apparatus) and PTH (the Centaur apparatus) in the blood.

Results and discussion

Number	Initials	Gender	Calcium (mmol/l)	Phosphorus (mmol/l)	PTH (pg/ml)
1.	V.V.	Z	2,73	0,83	180,8
2.	G.O.	Z	2,74	0,92	101,0
3.	M.V.	Z	2,84	1,10	157,0
4.	J.D.	Z	2,91	0,69	123,0
5.	D.Z.	Z	2,85	0,80	215,0
6.	V.S.	Z	2,88	0,84	204,0
7.	P.M.	Z	2,88	0,66	146,0
8.	C.Z.	Z	3,10	0,77	116,0
9.	A.R.	Z	2,59	1,04	140,0
10.	T.M.	Z	2,63	0,65	150,0
11.	M.S.	Z	2,64	1,14	133,0
12.	S.D.	Z	2,78	0,69	210,0
13.	C.Z.	Z	2,80	0,92	121,0
14.	B.D.	M	2,97	0,98	190,0

15.	M.A.	Z	2,80	0,67	197,5
16.	J.A.	M	2,78	0,95	342,0
17.	T.R.	Z	2,72	0,90	350,0
18.	M.M.	Z	3,10	0,60	310,0
19.	L.D.	Z	2,99	0,69	200,0
20.	C.Z.	Z	2,75	1,01	85,0
21.	J.K.	Z	2,80	1,13	210,0
22.	T.S.	Z	2,29	1,10	129,0
23.	P.B.	Z	2,70	1,20	115,0
24.	S.M.	Z	2,58	0,84	130,0
25.	J.V.	Z	2,70	0,92	168,0
26.	A.Z.	Z	2,78	0,86	166,0
27.	I.V.	Z	3,16	0,85	314,0
28.	S.N.	Z	2,87	0,69	267,0
29.	H.S.	Z	2,70	0,80	302,0
30.	M.G.	Z	2,38	0,88	95,2
31.	L.D.	Z	2,99	0,69	300,0
32.	J.R.	Z	2,87	0,70	309,0
33.	K.K.	Z	2,78	0,92	140,0

In our study we showed 33 patients to whom we diagnosed primary hyperparathyroidism in our institution. Of the total 33 patients, 31 were females, which is 93.94%, while there were only two men, which is 6.06% of the sample.

The average value of calcium in our group was 2.79 mmol / L. The highest amount of calcium was measured in our group was 3.16 mmol / L. The normal value of calcium in the blood in our laboratory from 2.15 to 2.50 mmol / L.

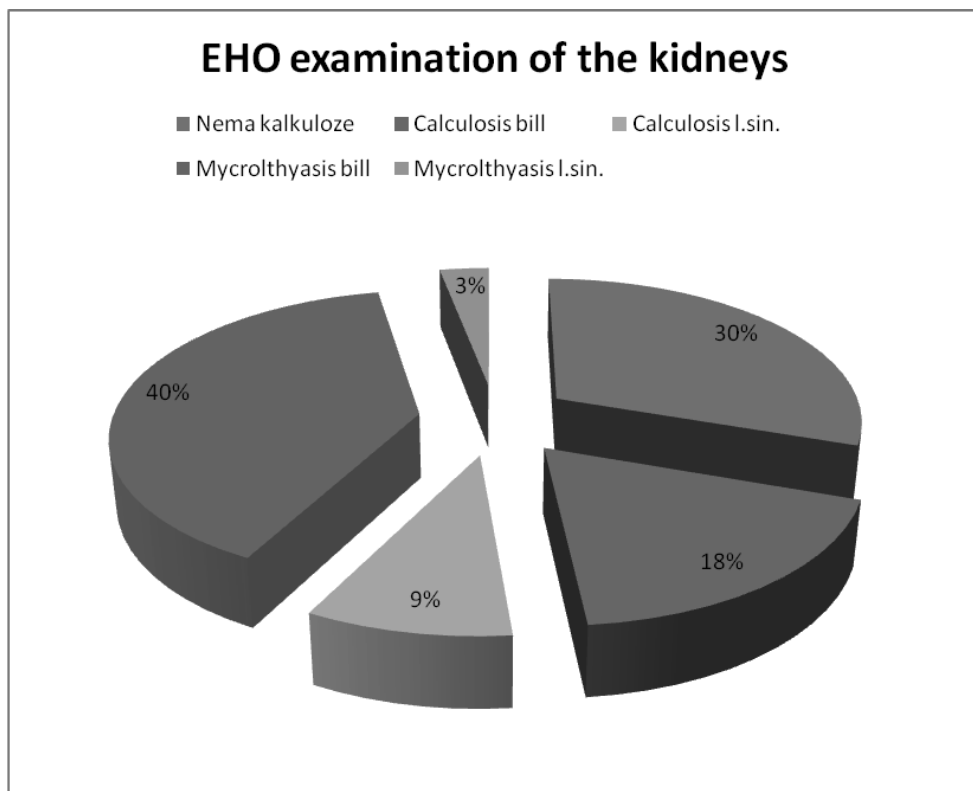
In our work, the average value of phosphorus was 0.86 mmol / L. The lowest value of phosphorus in our group was 0.60 mmol / L. The normal default value, of phosphorus in our laboratories is 0.70 to 1,45mmol / l.

Normally, PTH in our laboratory is 15 to 65 ng / ml, while the average value of this hormone in our selected group was 187.16 ng / ml. The average value of PTH in our selected group was almost three times higher than the upper limit of normal values of this hormone. The highest value of PTH in our selected group was 350 ng / ml, and the lowest 85.0 ng / ml.

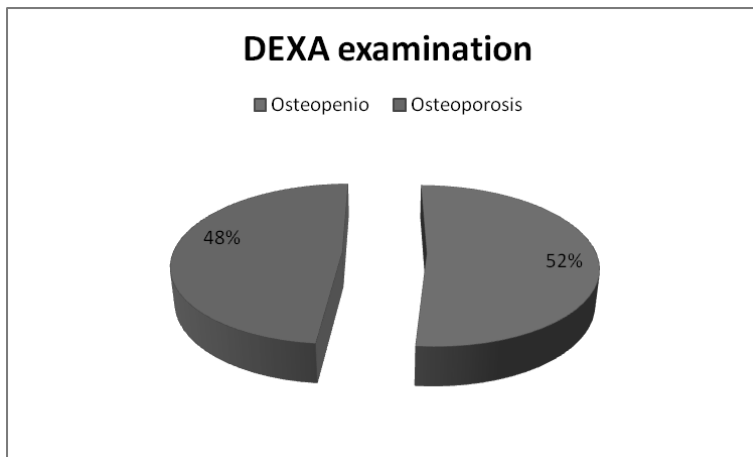
On their first visit to all our patients, we have done an ultrasound examination of the neck, where we are in 16 (51.51%), patients with a high probability could conclude that it was an enlarged parathyroid zlezdama. Od patients` 16, 11 (33.33%) scintigraphy parastitsatih gland completely coincided with ultrasound findings neck.

All our patients we did ECHO examination of the kidneys with regard to the existence of microlithiasis or calculi of one or both kidneys.

Ultrasonography kidneys we found that the majority of our patients have bilateral microlithiasis, 13 or 40%. In 6 of our patients we found mutual calculosis kidneys, which is 18% of the sample. Only 3 patients from our group had calculosis left kidney, which is 9%, and in one patient we found microlithiasis left kidney, which is 3% of the group. Negative findings renal ultrasonography, in the sense that there is not even microlithiasis renal calculi, were found in 10 patients, which is 30% of our sample. Chart No.1

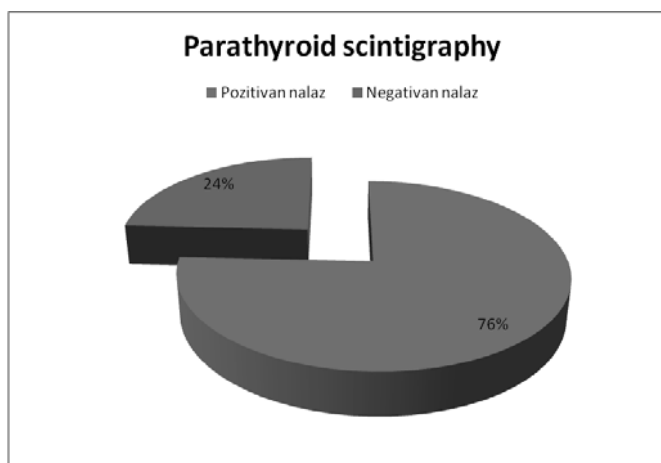


All patients from our group, we measured bone density in our Hologic Explorer osteodensimeter. By examining the bone density we get to the data, that all patients in our group had reduced bone density, or in terms of osteopenia or osteoporosis. Of our 33 patients, 17 had osteopenia, which is 52% of the sample, while 16 have osteoporosis, or 48%. Chart No.2

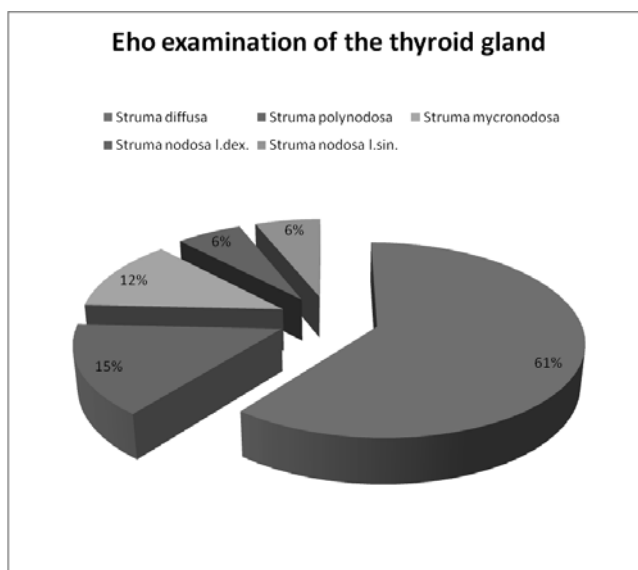


We performed and parathyroid scintigraphy all patients of our group. In 4 patients we identified two hyperactive parathyroid gland, while the other was a hyperactive parathyroid gland. Lower left parathyroid gland proved to be hyperactive in 12, and the lower right to the upper 9 pacijenata. Iz groups parathyroid glands, the left was hyperactive in 3 patients, and right in 6.

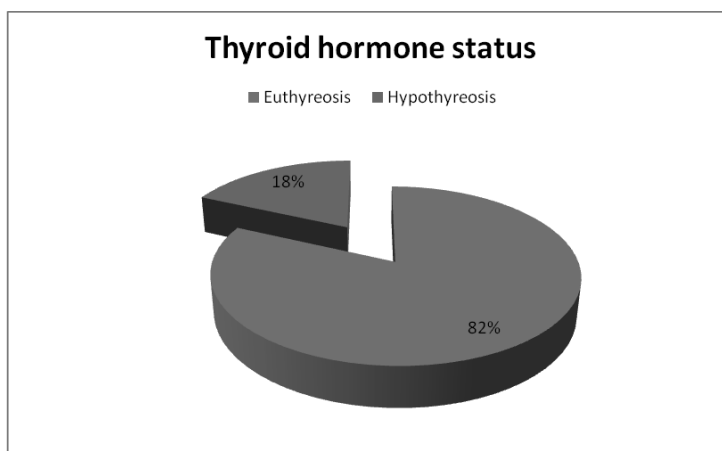
Negative scintigramski finding we had in 8 patients. Chart 3



A disorder of the thyroid gland material were all patients from our group. Of the 33 patients of our group, 20 patients had diffuse goiter, which is 61% of the sample, 5 had a nodular goiter, which is 15%, and 4 patients had mikronodoznu goiter, or 12% of the sample. A total of 4 patients, 2, which is 12% of the group had a nodular lesion in the left or right lobe stiaсте glands. Chart No.4



Of the 33 patients with primary hyperparathyroidism, 27 (82%) had disorders of thyroid function, or were euthyroid. The remaining 6 patients (18%), from our work had reduced function of the thyroid gland and all were treated with levothyroxine at the time of diagnosis of primary hyperparathyroidism. Chart No.5



Conclusion

From our work shows that of primary hyperparathyroidism affects primarily females, which completely fits to the available epidemiological data.

Our data showed that the primary hyperparathyroidism associated with disturbance of composition, but not with disorders of thyroid function. All patients who were diagnosed primary hyperparathyroidism had some kind of material thyroid disorders, while only 6 patients had disorders of thyroid function and in the sense of hypothyroidism. All 6 patients from our work with disorders of thyroid function were females.

Because the greatest number asymptomatic primary forms hyperparathyroidism advises a detailed medical history is taken, a special review of the females, and in all material thyroid gland disorder, diagnosed by ultrasound control and function parathyroid.

Literature

1. Harison, Internal Medicine
2. B.Jakovljevic, primary hyperparathyroidism -show case of a patient with advanced disease, Acta Medica Medianae, 2009.
3. Catherine Cormier et al Primary hyperparathyroidism and osteoporosis in 2004th
4. W. Fraser Hyperparathyroidism, Lancet, 2009.