Case report

PRIMARY HYPERPARATHYROIDISM - CASE REPORT OF A FEMALE PATIENT WITH ADVANCED DISEASE

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Primary hyperparathyroidism is a result of increased and uncontrolled function of the parathyroid hormone caused by hyperfunction of one or more parathyroid glands. The cause of hyperfunction of the parathyroid glands could be adenoma, hyperplasia, carcinoma. The leading sign of disease is hypercalcemia due to higher resorption of calcium from bones, decreased urinary elimination of calcium, and higher absorption of calcium in the bowels.

The paper presents the case report of a 41-year-old female patient treated in our hospital in February, 2003. She came to hospital in poor general condition with suspicion of multiple bone metastases. She explained that she had been feeling unwell for the last four years.

After clinical, laboratory and radiological examination we found adenoma of the left parathyroid gland which was operated. Histologically, adenoma was confirmed.

After supportive and symptomatic therapy, one year after surgical treatment, the patient was back to normal daily activities without any signs of disease. Acta Medica Medianae 2009;48(2):52-54.

Key words: hypercalcemia, hyperparathyroidism, adenoma

Introduction

Primary hyperparathyroidism occurs as a result of increased and uncontrolled secretion of parathyroid hormone because of hyperfunction of one or more parathyroid glands. The cause of hyperfunction of parathyroid glands is, in majority of cases, adenoma, followed by hyperplasia, and carcinoma only in 1 to 2% of cases.

The frequency of primary hyperparathyroidism is 1/1000 individuals in general population (1,2). In patients with primary hyperparathyroidism of benign etiology, the ratio of female/male is 3:2, while in patients with carcinoma of parathyroids that ratio is 1:1(3).

The main sign of disease is hypercalcemia caused by an increased resorption of calcium from bones, decreased urinary elimination of calcium and an increased absorption of calcium in bowels. Hypercalcemia seen in some malignancies with bone metastases can pose a problem in respect to differential diagnosis. In patients with primary hyperthyroidism, calciuria has been reported, with an increased tendency to urolithiasis, then polliuria because of an osmotic diuresis which leads to dehydration and loss of weight. Reabso-
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Clinic, Clinical Center Banja Luka.

of skeleton) she was transferred to the Oncology

Neurology Clinic.

confined to bed. Then, she was transferred to the

specialised institution when a resection of the jaw

was performed because of cystic changes.

A few months after coming to hospital, she

felt pains in the lumbar part of the spine and in

pelvis with pains spreading to both legs. Difficulties in walking, numbness, and dull pain

were becoming more intense, and soon she was

confined to bed. Then, she was transferred to the

Neurology Clinic.

Because of suspected bone metastases (CT

of skeleton) she was transferred to the Oncology

Clinic, Clinical Center Banja Luka.

Having completed a clinical examination,

we found out that the patient was afebrile, eupnoic, without peripheral lymphatic lymphade-
nopathy, pale, confined to bed. Buccal mucous

membrane was pale, teeth missing. Lungs and

hearth were normal. Abdomen was soft, there

was no pain on palpation. No organomegaly was

reported. In the low pelvis suprapubically, a

vaguely enclosed mass was palpated, elastic on

touch, painless on palpation. Extremities were

painful on palpation and movement, fractures

were conservatively treated by plaster fixation.

Based on the detailed anamnestic data,

objective findings and analysis performed before

the patient was hospitalized at the Oncology

Clinic, a working diagnosis of primary hyperpara-

thyroidism was made and further examination

was conducted in that direction.

Laboratory analyses: SE 8 E 3,6 Hb 116 L

6,8 TR 207 AP 605...615..388 Ca 4,6..4,4 (after

Aredia amp. Ca 3,2..3,0) K 2,8..2,7 (ordin. KCL –

K 3,2) P 0,8..0,6

Tm markers: AFP 6,6 CEa 0,51 Ca 15-3 26

Ca 125 30 (within the limits of reference values).

Laterally and below the left lobe, ECHO of

thyroid gland showed a nodule of 48x25 mm, of

heterogeneous structure. Scintigraphy of the thyre-

oid gland confirmed ultrasound finding. Scinti-

graphy of the parathyroid glands showed an

intensive accumulation of radiopharmac next to

the thyroid gland and laterally down under the

lower pole of the left lobe of thyroid gland,

which most probably correspond to increased and

hyperactive parathyroid gland.

PTH: 1346..2471 (N.V. up to 53 pg/ml)

Calciuresis: 1000 mg/day

5 HIAA: 19,9 μmol/24h

ECHO of abdomen and kidneys: in both

kidneys a few small stones, other findings were

regular.

RTG of cranium and in two projections of

spine, pelvis with hips, both upper arms, forearms

and hands, as well as both tighs and lower legs:

on all bones, a thin and diluted bone structure is

visible, with tiny osteolitic points, signs of diffused

osteoporosis and numerous cystic formations

(Figure 1).

RTG of lungs and heart: findings regular.

EKG: sr, f 75/min, intermed. El oss without

pathological changes.

Endocrinologist: recommended op. treatment.

During hospitalisation, a minimal movement

caused a fracture of diaphysis of the right femur.

Orthopaedic surgeon: It was decided that

pathological fracture of diaphysis of the right tigh

bone be treated conservatively by coxofemoral

plaster. Surgery was postponed until the primary
disease was cured.

Gynecological ECHO: uterus, in the whole,

was enlarged - 93x82 mm, with several myoms,

the largest being 48 mm in diameter. In the area

of the adnexis no pathological changes were

seen. The patient was transferred from the Clinic

of Oncology Banja Luka to the Institute of Endocri-

nology in Belgrade where she was operated on

April 17,2003.

OP: Parathyroidectomy sin.inf.

PH: Adenoma gl. parath.

Medical reports showed that the size of

tumour was 6x4x3 cm and that it was located in

the lower left PT gland, in the area between thymus

and lower pole of the left lobe of the thyroid gland.

In the postoperative period, the patient felt

much better. She had good appetite, she was gaining

weight, stools were regular. Menstrual cycle was

normalized two months after operation. With the

application of symptomatic therapy, laboratory

analysis were within the limits of referred values.

PHT: 987,1..145..19,1

A year after the operation, the patient walks

without help, she has gained 15kg, and does

not complain of any discomfort.

Discussion

The effect of excessive amounts of paratho-

rmon is best seen on the cells of renal tubulles,

bones, and digestive tract mucuous membrane.

Its effect on tubular epithelium causes increased

phosphaturia, kaliuria and natriuria, with retention

calcium, magnesium and hydrogen, which results

in hypophosphathemy and hypercalcemia (4).

Primary hyperparathyroidism is a rare dis-

ease which should always be suspected of when

having a patient with hypercalcemia as a dominant

clinical symptom. Bones become osteoporotic

associated with the loss of the osseous mass, and

there is a picture of osteoporosis caused by
demineralisation of bones. Sometimes, differential

diagnosis can mislead to skeleton metastases,

but careful study of anamnestic data and precise

clinical examination should lead to final diagnosis.

In some cases, as it is the case with our patient,

some greater structural changes in bones are

seen which are called osteitis cystica fibrosa.

Hypercalcemia causes an increased gastric secre-

tion, so in those patients the ulcer is present four
times more frequently than in the general

population (5).

Such patients suffer from nausea, vomiting,

constipation, sometimes with a progressive loss

of weight. Frequently, digestive problems are so

pronounced that they completely mask the real
diagnosis. Also, because of many polymorphic

neurological problems and psychological distur-
bances, it occurs that those patients are chara-

cerised as neuropsychiatric patients (6,7).

Conclusion

Hypercalcemia can be a manifestation of
different pathological states; however, malignancies
and hyperparathyroidism account for 90% of all cases. Asymptomatic hypercalcemia is often seen in primary hyperparathyroidism, while in the patients with malignancy it is more often an incidental finding. A detailed study of anamnestic data, clinical examination of the patient, and directed diagnostic study, in most cases, in a short period of time, will lead to the final diagnosis.

References


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Ključne reči: hiperkalcemija, hiperparatiroidizam, adenom