Difficulties and Errors of Differential Diagnostics

Androgen-Secreting Tumors of the Addrum and Ovary on The Example of Clinical Case. Results of Treatment

Tereshchenko IV* and Marchukova EA
Perm State Medical Academy, Russia

Abstract

The goal is to analyze the possibilities of differential diagnostics of androsteroma and virializing ovarian tumors and to analyze the case of erroneous adrenalectomy. A patient of 57 years with ovarian virilization was removed the adrenal gland. Hypotestosteronemia persisted. It was proposed to remove the second adrenal gland, the patient refused only after 5 years.

Keywords: Androsteroma; Arrhenoblastoma; Tekoma; Adrenalectomy; Virile syndrome

Introduction

Androsteroma, a hormonally active virializing tumor from the reticular layer of the adrenal cortex, is extremely rare. Variolating ovarian tumors - sertolistromalnokletochnye and steroid - cell - are also a rare pathology, although they are more common with androsteroma. Androsteroma and virializing ovarian tumors do not differ in the clinical picture. Therefore, the differential diagnosis of these tumors is difficult. However, the determination of the level of androgens and their fractions in the blood, which has become routine in recent years, makes it possible to suspect a source of virilization. Tumor cell secretion androgens and their fractions depends on the origin of the tumor, which is very important to consider when differential diagnosis. Visualization androgonosekretiruyusch her tumor and performed echo graphically (US), by computer or magnetic resonance imaging (CT, MRI) of the adrenal glands and organs of a small pelvis and helps in the selection of surgical intervention. The available literature mainly contains a description of individual cases of virializing GTC Hawley, and in publications is not met examples of differential diagnostic errors [1-5].

Clinical Observation

Patient G- va, 57 years old, appealed for consultation in May 2017 years complaining of alopecia, beard and mustache growth (she shaves daily), hair growth on her back, along the back of her thighs, around the anus, coarseness of her voice.

Anamnesis of life

Signs of virilization appeared in 2011 at the age of 54 years, which was regarded by doctors as menopausal alopecia. In the fall of 2013, a hormonal examination was conducted. The level of testosterone in the blood was 261ng/dl (the norm of 5-103ng/dl), free testosterone 54pg/l (the norm of 0-4.1pg/l) Repeatedly repeated control testosterone levels. During the year, giptestosteronemia was persistent: 241-424ng/dl. In November 2014 she was hospitalized in the endocrine logical department for examination.

Installations

Testosterone content in the blood 424ng/dl, 17OH-progesterone and 11.08nmol/L (normal <2.1 nmol / L), androstenedione and1.5ng/ml (normal 0.4-4.1ng/ml) , dihydrotesterosterone a 334pg/ml (normal 24- 450pg/ml, estradiol and 45.72pg/ml (normal 0-41pg/ml), cortisol and 9.2mg/dl (normal 5-25µg/
Objective status

Masculine phenotype. Reduced body fat around the pelvic girdle. Motility, men’s gait. The voice is low with male overtones (bar phony). Male type alopecia. Pronounced hirsutism and hypertrichosis. The thyroid gland is not enlarged. The mammary glands are hypo trophic, sluggish, and abundant hair growth around the areolae. From the internal organs of the pathology was not detected BP 135/80.

Gynecological status

Clitoromegaly, the mucous membranes of the perineum are atrophic, cyanotic. Labia ipoplazi Mr. Rowan. The uterus is small in size. The ovaries are not palpable.

Thus, the patient is symptomatic and virilization defeminizatsii.

Clinical diagnosis

Virializing tumor of the right ovary. Hypertension stage II, risk 2.

Treatment

The patient is asked to surgical treatment, which she accepted at once, and more checked twice testosterone la (258ng/dl, 232ng/dl). Produced laparoscopic bilateral adnexectomy 15.12.2017 year. It turned out I’m an ovary on the left, involutive, 1.5x1.5x0.7cm, tightly elastic, gray on the cut, with small single burgundy patches. The right ovary 2-3-2cm, on its lateral surface is located glandular -cystic structure of burgundy color, without capsule, diameter - 1.5 to 2cm, the cut median (gray-yellow-twitch the centers of the red and brown) irregular shape. Histologists I: tumor from large polygonal x cells similar to granulozo -lyuteinovymi cells, resembling a corpus luteum cells as diffuse tyazh, fields, nests, with sites of cystic degeneration; the vasculature in the tumor is well developed. Conclusion: steroid- lipid cells unclassifiable tumor of the right ovary; focal (nodular) hypertecosis of the left ovary (hematoxylin-eosin staining; histochemical study was not conducted).

Results

After surgery in the blood levels of testosterone became <20ng / ml, color appeared sparse hair, disappeared barifoniya. However, frequent hot flushes began to bother: The level of FSH corresponded to the norm of the menopausal period (33.7mIU/ml); the norm was up to 133.4mIU/ml), the content of estradiol in the blood was < 10pg/ml. After 3 months she began to feel good, the tides stopped spontaneously. Glycemia is monitored and monitored: normal carbohydrate metabolism. Last viewed in XII -2 018g. No complaints. Alopecia disappeared. Hirsutism is less pronounced. Does not need daily shaving (visits the beautician once a month). Gait, motility, voice, phenotype as a whole - feminine. The rapid and significant regression of virilization is amazing.

Clinical manifestations androsteroma and virializing ovarian tumors are similar, which creates difficulties in diagnosis. Symptomatology and depend on the degree of testosterone tumor cells hypersecretion. However, androsteroma occurs more often at the age of 40 years [1,2], virilizing ovarian tumors can develop at any age, but mainly in menopause [3-5]. Hormonal shifts with

Conclusion

Hyper vascular formation of the right ovary.
adrenal and ovarian tumor hyperandrogenism have cardinal differences (Table 1).

**Table 1:** Hormonal changes in virilizing tumors adrenal and Ovarian virilizing tumor.

| Hormone            | Androsteroma | Ovarian Virilizing Tumor |
|--------------------|--------------|--------------------------|
| Testosterone       | Persistent and high excess* | Persistent and high excess* |
| Free testosterone  | Moderate increase | Persistent and high excess* |
| DHEA               | Significant and persistent increase (increases 10 times and >) | Normal, possibly < normal* |
| 17αOH progesterone | Significant and persistent increase | Normal or slightly elevated* |
| Androstenedion     | Significant and persistent increase | Fine* |
| Dihydrotestosterone| Normal or elevated | Normal or elevated |
| Estradiol          | Always down | Normal, can be upgraded* |

*changes in the level of hormones in the blood of the observed patient.

Clearly, virilization and determinism in the observed patient created ovarian hypotestosteronemia. Her hormonal changes directly pointed to the ovarian and not adrenal genesis of hypotestosteronemia, since the blood content of adrenal fractions of androgens was not increased, and DHEA (the main indicator of adrenal hyperandrogenic) was even reduced. In case of virilizing ovarian tumors, mixed hypersecretion of testosterone and estrogen (estradiol and estrone) can be observed. Obviously, this option was in the presented patient, since her estradiol level was slightly elevated.

To visualize androgen secretory tumors should be carried out and ultrasound, and CT (MRI) of the adrenal glands and pelvic organs. It should be noted that, in the observed patient, no pelvic CT scan was performed before adrenalectomy, although the right ovary was echo graphically enlarged, and the tumor was not viewed. The results of a double adrenal ICC MCC clearly indicated that it does not have an androsteroma, since an androsteroma always has a dense connective tissue capsule, is located in the tissue of the adrenal gland itself, and not between its legs, actively accumulates contrast (ultraravist).

It is known that with hypertension and long-term use of antihypertensive drugs, secondary hyperaldosteronism and adrenal hyperplasia may develop. This explains bilateral hyperplasia of both adrenal glands in the observed patient. (Hypertension in her > 15 years). There was no doubt during the MCC that the rounded tumor between the legs of the adrenal gland is a lipoma. The morphological description of the lipoma in the patient is not done. Depending on the lipoma cell composition may be lipoblastoma (tumor cells of sex cord - or Sertoli cells Le ylida cells) lipidokletochny tumors (lyuteomy). Often, a morphological diagnosis can only be made by means of histochemistry, which was not done by the patient. Therefore, an exact morphological diagnosis has not been made. However, yrazhennost virilization and speed of its progression independent of ghee with ontological structure of ovarian tumors, but only on its androgen secreting activity. Topic diagnosis of ovarian tumors always presents great difficulties, since they are small in size and can be localized in the area of the ovary collar (this makes visualization difficult during ultrasound). They may not be clearly determined by ultrasound of the ovaries, as was the case with the observed patient. In such cases, the unilateral enlargement of the ovary should be alarming. Heredoc they lack capsule; they are bilateral or recur after surgery; there is always the risk of their malignancy, which means that surgical treatment should be carried out as early as possible. In a patient, the approximate duration of the disease before the removal of the tumor was 7 years! Hypertecosis of the left ovary aggravated virilization, and in addition, it was a precancerous condition. Bilateral adnexectomy was necessary. Uterus extirpation was not required (the principle of reducing surgical aggression was observed).

Known gipertekoz characterized by insulin resistance. In yrazhennost stromal hypertecosis is directly related to how significant insulin resistance is: The β-cells have insulin receptors, and insulin helps them to produce androgens. Reducing the sensitivity of cells to insulin causes nak about Nia glucose pleas in the blood that is not able to penetrate the cells, which manifested itself in the patient. It is important to note that after surgery, her carbohydrate metabolism returned to normal, i.e. a violation of the glucose tolerance test was obviously a manifestation of hypertecosis, and the diagnosis of type 2 diabetes mellitus was wrongly set.

**Findings**

1. Despite the complete clinical similarity of androsteroma and virilizing ovarian tumors, the resulting hormonal changes differ dramatically, and this helps differentiate the localization of the tumor.
2. In order to avoid diagnostic errors for topical diagnosis of a virilizing tumor; it is always necessary to perform ultrasound and CT or MRI of the adrenal glands and pelvic organs.
3. With androgen-secreting tumors of both the adrenal gland and the ovary, early surgical treatment is required, which will eliminate defeminization, reduce virilization, and prevent malignancy of tumor tissue.

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Conflicts of Interest

No conflict of interest.

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