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RESULTS OF SURGICAL TREATMENT OF BENIGN ADRENAL TUMORS

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Abstract

The results and analysis of surgical treatment of 48 patients with adrenal tumors operated from 2009 to 2018 are shown. The indication for surgical treatment of adrenal gland masses is the clinical manifestation of the tumor, its hormonal activity and the high malignant potential of the tumor. Of the 48 (100%) cases of benign adrenal tumors, in most cases adenomas of the adrenal cortex - 26 (54.0%) patients. Then pheochromocytomas - 11 (23.0%), adrenal cysts - 7 (15.0%), adrenal hyperplasia - 3 (6.0%) and myelolipomas - 1 (2%). The laparotomic approach is the most convenient, effective and sparing approach, which improves the patient's quality of life in the postoperative period than the thoracoabdominal and translumbar approaches.

Key words: adrenal tumor, adrenalectomy.

АДРЕНАЛЫК ӨСҮКТӨРҮНҮН БЕНИГН МЕНЕН ОПЕРАЦИЯЛЫК ДАРЫЛОО ЖЫЙЫНТЫКТАРЫ

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Аннотация

2009-2018-жылдар аралыгында бөйрөк үстүндөгү шишик менен ооруган 48 бейтапты хирургиялык жол менен дарылоонун натыйжалары көрсөтүлдү. Бөйрөк үстүндөгү бездин массасын хирургиялык жол менен дарылоонун көрсөткүчү шишиктин клиникалык көрүнүшү, анын гормоналдык активдүүлүгү жана шишиктин жогорку зыяндуу потенциалы болуп саналат. Бөйрөк үстүндөгү шишиктин 48 (100%) учурунан, көпчүлүк учурда бөйрөк үстү безинин кабыгынын аденомалары пайда болгон - 26 (54,0%) бейтап. Андан кийин феохромоцитома - 11 (23,0%), бөйрөк үстүндөгү кисталар - 7 (15,0%), бөйрөк үстүндөгү гиперплазия - 3 (6,0%) жана миелолипома - 1 (2%). Лапаротомдук ыкма эң ыңгайлуу, натыйжалуу жана үнөмдүү ыкма болуп, операциядан кийинки мезгилде пациенттин жашоо сапатын жакшыртат, бул торакоабдоминалдык жана транслюмбралдык ыкмаларга караганда.

Ачык сөздөр: бөйрөк үстүндөгү шишик, адrenaлэктомия.

РЕЗУЛЬТАТЫ ХИРУРГИЧЕСКОГО ЛЕЧЕНИЯ ДОБРОКАЧЕСТВЕННЫХ ОПУХОЛЕЙ НАДПОЧЕЧНИКОВ

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Аннотация

Показаны результаты и анализ хирургического лечения 48 больных с опухолями надпочечников, оперированных с 2009 по 2018г. Показанием к хирургическому лечению образований надпочечников является клиническое проявление опухоли, гормональная его активность и высокий злокачественный потенциал опухоли. Из 48(100%) случаев доброкачественных опухолей надпочечников в большинстве случаев составили аденомы коры надпочечников – 26(54,0%) пациентов. Далее феохромоцитомы – 11(23,0%), кисты надпочечников – 7(15,0%), гиперплазии надпочечников – 3(6,0%) и миелолипомы – 1(2%). Лапаротомный доступ является наиболее удобным, эффективным и щадящим доступом, что улучшает качество жизни пациента в послеоперационном периоде, чем торакоабдоминальные и транслюмбальные доступы.

Ключевые слова: опухоль надпочечников, адrenaлэктомия.

Introduction

Treatment of patients with adrenal tumors is an urgent problem of modern surgery. With the improvement of methods of instrumental topical diagnostics, the frequency of detection of adrenal tumors increases tenfold, according to computed tomography, in 0.6-4.4% of the examined patients. There is an increase in the number of cases of NP tumors with increasing age of patients - among people over 50, the incidence of tumors is 3 - 7%, while in those under 30 years old - only 0.2%. Bilateral adrenal tumors lesions occur in 2-10% of all cases [1,2,3,4,5].

In adrenal tumors, two main issues are relevant that need to be resolved: the first is a conclusive diagnosis of the hormonal activity of the tumor, and the second is the determination of the malignant potential of the tumor. The highest malignant potential of the tumor is observed: when the size of the formations is more than 4 cm; the patient's age is more than 40 and 50 years and a high native CT density of more than 20 units. H., decrease in density by CT 10 min after removing the contrast agent by 50% [5,6,7,8,9,10,11,12,13,14].

With proven autonomous hormonal activity of the adrenal tumor and its high malignant potential, surgical treatment is recommended [1,5,15,16].

The aim of this work is to improve the immediate results of surgical treatment of adrenal tumors.

Materials and methods

The analysis of clinical characteristics, results of examination and treatment of 48 patients with various benign adrenal tumors was carried out from 2009 to 2018 in the clinic of I.K. Akhunbaev I.K.

Among the 48 patients included in the study, there was a predominance of women over men: 38 (79%) versus 10 (21%). The average age of the patients was 39.7 ± 2 years, the maximum - 65, the minimum - 20. The distribution of patients by age and sex is shown in table №1. The distribution of patients by tumor size is shown in table №2. The clinical picture of benign adrenal tumors is presented in table №3.

Table №1 Distribution of patients by age and sex

Age, years	Men	Women	Total
20-29	4(8%)	9(19%)	13(27%)
30-39	1(2%)	9(19%)	10(21%)
40-49	4(8%)	9(19%)	13(27%)
50-59	1(2%)	9(19%)	10(21%)
60 -65	0	2(4%)	2(4%)
Total	10(21%)	38(79%)	48(100%)

As can be seen from table 1, adrenal tumors are most common at the age of 20-60 years.

Table № 2. The distribution of patients by tumor size

Tumor size (cm)	Number of patients
Up to 4 cm	28 (59%)
5 to 10 cm	17 (35%)
More than 10 cm	3 (6%)
Total	48 (100%)

According to table №2, the average tumor size was 41.2 ± 4 mm. The most common tumors were up to 4 cm in size.

Table № 3. The clinical picture of benign adrenal tumors

Symptoms	Number of patients
Arterial hypertension	34 (71%)
Muscle weakness	12 (25%)
Headache, sweating, tachycardia	9 (19%)
Dysplastic obesity	7(15%)
Osteoporosis, bone pain	2 (4%)
Disorder of the menstrual cycle	2 (4%)
Steroid diabetes	2 (4%)
Hirsutism	2 (4%)
Polyuria, nocturia, polydipsia	2 (4%)
Pain syndrome	23(48%)

The following types of surgery were performed (Table № 4): adrenalectomy - 42 (88%), adrenal resection - 6 (12%).

Table №4. Types of surgical interventions

Operations	Amount
Adrenalectomy	42 (88%)
Adrenal gland resection	6(12%)
Total:	48(100%)

9 (19%) patients out of 48 (100%) had a combination of adrenal tumors with other concomitant surgical diseases: 7 patients had adrenal gland formation combined with chronic calculous cholecystitis, 1 with chronic calculous cholecystitis and multinodular goiter, 1 with nonparasitic liver cyst. In this connection, 9 patients underwent corresponding simultaneous operations (Table 5): adrenalectomy, cholecystectomy - 7 (15%), adrenalectomy, cholecystectomy, thyroidectomy - 1 (2%), adrenalectomy, liver resection-1 (2%).

Table № 5. Types of simultaneous surgical interventions

Operations	Amount
Adrenalectomy, cholecystectomy	7(15%)
Adrenalectomy, cholecystectomy, thyroidectomy	1(2%)
Adrenalectomy, liver resection	1(2%)
Total:	9(19%)

The type of surgery, adrenal gland resection or adrenalectomy, depended on the nature of the lesion: adrenal gland resection was performed in 6 out of 7 patients with an adrenal cyst, all other patients with dense formation underwent adrenalectomy.

For surgical interventions on the adrenal glands, we mainly used the laparotomic approach - in 46 (96%) of 48 (100%) patients. This is an optimal, low-traumatic approach, which provides conditions for performing adrenalectomy both on the left and on the right.

Based on our experience, we consider the midline laparotomy and the Brunshwig J-shaped approach to be less traumatic, providing conditions for performing adrenalectomy both on the left and on the right, requiring less intensive anesthesia, having fewer early and late complications as compared to thoracoabdominal and translumbral approaches. Anterolateral thoracoabdominal approach was used in 2 patients at the beginning of our study.

Histological examination was performed on remote macro-preparations, presented in table №6.

Table № 6. Distribution of neoplasms by histological structure

Histological structure	Number of patient
Adenoma of the adrenal cortex	26(54%)
Pheochromocytoma	11(23%)
Adrenal cyst	7(15%)
Adrenal hyperplasia	3(6%)
Myelolipoma	1(2%)
Total	48(100%)

Of the 48 (100%) cases of benign adrenal tumors, in most cases, adrenal adenomas - 26 (54%) patients, pheochromocytomas - 11 (23.0%) and adrenal cysts - 7 (15.0%). The smallest cases of adrenal hyperplasia - 3 (6.0%) and myelolipoma - 1 (2%).

During surgery on the adrenal glands, the main intraoperative complication is bleeding. The volume of blood loss averaged 250 ± 35 ml, maximum 1200 ml, minimum 100 ml. In most cases, bleeding was between 100 and 250 ml.

The average hospital stay was 12 ± 0.7 bed - days, maximum - 33 bed - days, minimum - 3 bed - days. An increase in the length of hospital stay, as well as its reduction to 3 days, are associated with the emerging postoperative complications. In 1 patient, a reduction in hospital stay to 3 days is associated with postoperative mortality.

Postoperative complications occurred in 9 patients, which is presented in table № 7.

Table №7. Postoperative complications

Postoperative complications	Number of patients
Postoperative primary adrenal insufficiency	1(2%)
Postoperative right-sided pneumonia with exudative pleurisy	1(2%)
Exudative reactive pleurisy	1(2%)
Unstable progressive angina -	2(4%)
Pancreatic fistula	1(2%)
Suppuration of the wound	1(2%)
Exacerbations of concomitant bronchial asthma	1(2%)
Postoperative mortality	1(2%)

Thus, the indication for surgical treatment of adrenal gland formations is the clinical manifestation of the tumor, its hormonal activity and the high malignant potential of the tumor.

The laparotomic approach is the most convenient, efficient and gentle approach, which improves the patient's quality of life in the postoperative period. The type of surgery, adrenal gland resection or adrenalectomy, depends on the nature of its lesion.

The main rule in adrenalectomy is the removal of the tumor while preserving its capsule intact. The severity of clinical manifestations after surgery was markedly reduced or completely eliminated.

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