IN THE NAME OF GOD

Follow up patients

Dr. Nafise Hassanloo

1402.07.24

Present illness…

- 47-year-old man complains of high blood pressure and sweating ,headache since **10 days before hospitalization**, (1401/12/18) he goes to the clinic.

- The patient was admitted to this center on 1401/12/29 due to hypokalemia(k: 2.2) high blood pressure(BP :160 /90 PR :112) and incidental Adrenal mass…

1401/12/29

FBS	197 mg/dl
HBA1C	4.6 %
BUN	38 mg/dl
Cr	1.1 mg/dl
TG	142
CHOL	190 mg/dl
LDL	108 mg/dl
AST	33 iu/L
ALT	50 iu/L
ALP	303
Calcium	9.73 mg/dl
sodium	140 meq/L
K	4.5 meq/L
TSH	0.6 micu/dl
T4	7.3 ug/dl

WBC	17700 PMN:73% LYMP:20%
Hb HCT:45	15
Plt	231000
urea	32 mg/dl
cr	1 mg/dl

Sonography 1401/12/24

ر آئورت و پاراآئورت نکته خاصی دیده نشد.

صویر یک توده با نمای سالید- کیستیک به صورت round ایزواکو، با حدود مشخص، دارای تغییرات کیستیک مرکزی به

ابعاد تقریبی 50*38mm در محل آناتومیک آدرنال راست بین کبد و پل فوقانی کلیه راست دیده می شود. ضایعه مذکور در

بررسی کالر داپلر فاقد واسکولاریته واضح قابل detect اینترنال می باشد. در صورت صلاحدید بررسی با سی تی اسکن با

پروتکل آدرنال جهت ارزیابی دقیق تر پیشنهاد می شود.

کلیه ها دارای سایز و اکوی طبیعی بوده در انها اثری از هیدرونفروز دیده نشد.

A Solid cystic mass 48*38mm in Right Adrenal

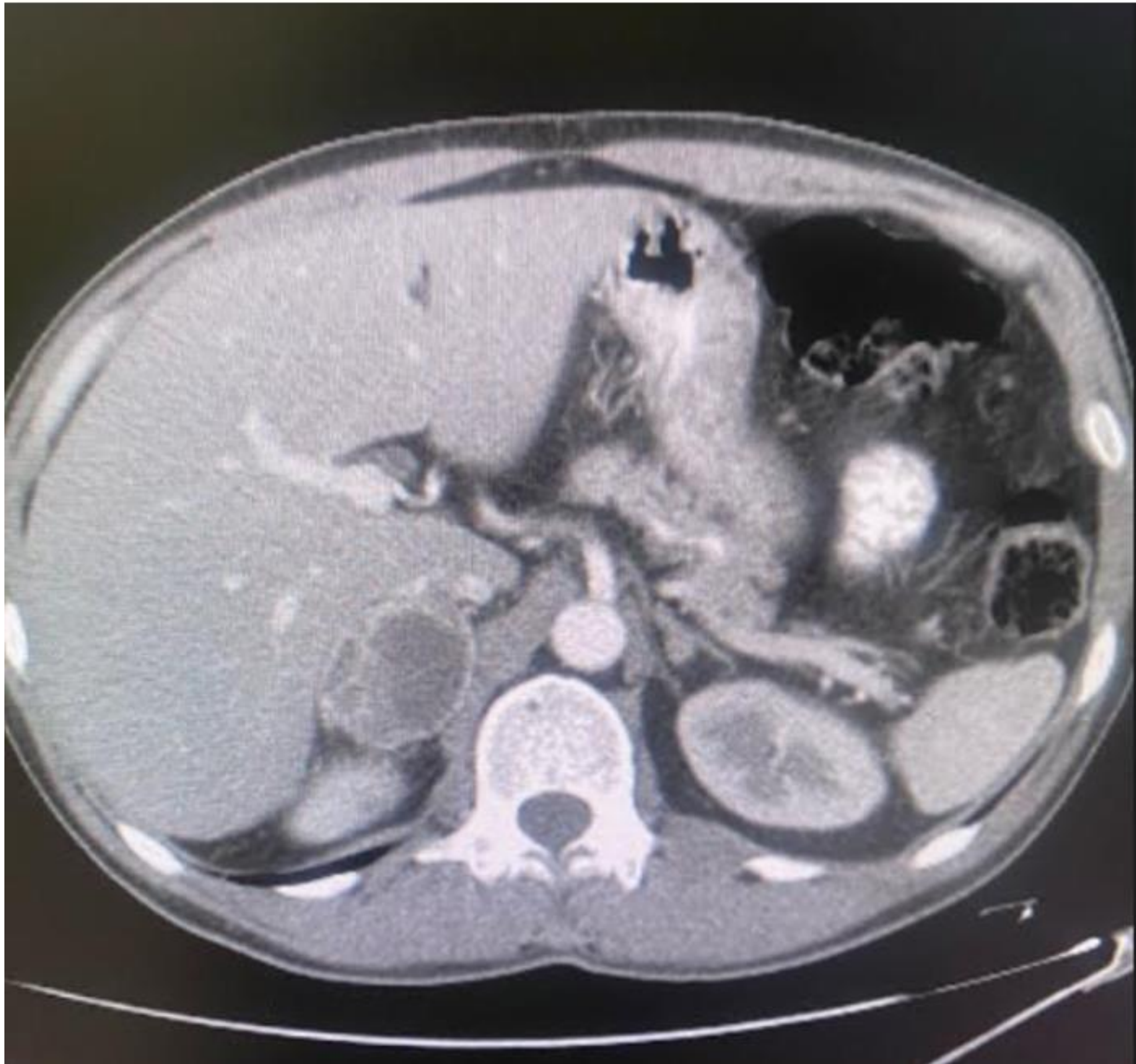
SPIRAL ABDOMINOPELVIC CT SCAN WITHOUT AND WITH IV & ORAL CONTRAST

Multislice axial images before and after contrast administration reveal:

- Liver: normal size and density without mass, portal vein or bile duct dilation
- Gallbladder: normal volume and wall thickness. No mass or gall stone
- Pancreas: normal size and density for age without duct dilation or mass. No peripancreatic fluid collection.
- Spleen: normal size and density
- **Heterogenous enhancing in necrotic center.**
- ***Well defined mass lesion measured axially 48x36mm is visible at right adrenal gland.***
- **Considering adrenal cortical carcinoma, surgical excision is recommended.**
- Rt kidney: normal size, density, parenchymal thickness and excretion without hydronephrosis, cyst, stone or mass.
- ***There is a stone measured 4mm at lower calyx of left kidney.***
- Aorta, IVC and retroperitoneum: unremarkable. No para-aortic lymphadenopathy.
- Ascites: none
- Bowel loops, other soft tissues and bony structures: unremarkable
- Bladder: normal wall thickness. No mass or stone.
- Pelvic organs: normal. No pelvi

Abdominal pelvic CT Scan with and without IV contrast

1401/12/25



Gholhak Lab 1402.01.15

S0DIUM :136
K:2.7
VMA :21.7mg/24h (up to 13.6)
Adrenalin (plasma):120 pg/ml (<125)
Nor Adrenalin (plasma):156 pg/ml (<600)
Urine volume 24h :2500ml/24h
Urine cortisol : 1237 micg/24h (3.5-45)
Adrenalin(urine) 75nmol/24h3 (<110)
NorAdrenalin(urine) 445micg/day (<90)

DHEAS :502 ug/dl (136_447)
Cortisol (ODST) 38ug/dl <5
ACTH:326 pg /ml (7_63)
Ald: 37 pg/ml (37_310)
Renin: 9 mIU/ml

خدمت درخواستی : MRI مغز با و بدون ماده حاجب

تکنیک تصویر برداری:ام ار ای مغز با و بدون کنتراست

یافته ها :

فضاهای اکسترا آگزیال :در سایز و شکل با توجه به سن بیمار نرمال هستند

خونریزی اکستراآگزیال : ندارد

سیسترن های بازال : نرمال

شیفت میدلاین : ندارد

مخچه :نرمال

ساقه مغز : نرمال

کالواریوم : نرمال

سیستم عروقی :نرمال .

Signal void مناسب شریانی و سینوس های دورا رویت میشرد.

بخش های قابل رویت سرویکال فوقانی :نرمال

Polyp retention cystدر سینوس ماگزیلاری چپ رویت شد.

تصویر ندول 5×4mm در قسمت خلفی هیپوفیز رویت شد.

T1 hyperintensity واضح نوروهیپوفیز مشاهده نشد ، بررسی از لحاظ نوروهیپوفیز نظیر pituicytoma پیشنهاد می گردد.

ناحیه سلا و قاعده جمجمه نرمال

استاد: دکتر لنگری

Pituitary MRI
1402/01/10

Mean UFC :3214 ug/24h

Ufc 1 (cortisol)2448 ug/24h
Volume :3300
Cr :1.6gr/24h
Ufc 2 (cortisol)3980 ug/24h
Volume :3200
Cr:1.4 gr /24h

High Dose Dexamethasone suppression Test 1402/01/16

Ufc (cortisol after Dexamethasone) 2472 ug/24h
Volume 3300
Cr:1.2 gr/24h

DX: ACTH Producing Pheochromocytoma

- ✓ Right Adrenalectomy On Date: 1402.02.12

CLINICAL INFORMATION: Adrenal mass, R/O pheochromocytoma

SPECIMEN: The sample submitted for review and second opinion consists of 5 paraffin blocks label
969 and the copy of the corresponding pathology report with the same pathology number from Shah
pathology laboratory, Tehran
Sections prepared from all the blocks for H-E staining. The blocks were returned to the patient.

MICROSCOPIC DESCRIPTION:
Please see the diagnosis.

SECOND LOOK DIAGNOSIS:
RIGHT ADRENAL MASS, RESECTION:
- HISTOLOGICAL FINDINGS AND IHC RESULTS ARE THAT OF PHEOCHROMOCYTOMA
- TUMOR SIZE: 5.5CM BASED ON ORIGINAL PATHOLOGY REPORT
- NO CAPSULAR INVASION IS SEEN IN RECEIVED SAMPLE
- NO LYMPH/ VASCULAR INVASION IS SEEN IN RECEIVED SAMPLE
- NO PERIADRENAL ADIPOSE INVASION IS SEEN
- MITOTIC RATE: 2-3/ 10HPF
- NO NECROSIS IS SEEN
- PHEOCHROMOCYTOMA OF ADRENAL GLAND SCALED SCORE (PASS SCORE): 5, PLEASE SEE NOTE

NOTE:
Please also see the IHC report DP-02-1200.
Pheochromocytoma of the adrenal gland scaled score (PASS score) can be used to assess for malignan
total score≥4 is concerning for malignancy.

تاریخ پذیرش: 1402/02/27
تاریخ جوابدهی: 1402/03/08
نام پزشک: دکتر حسنلو

...ذیرش : 0202000932
... : مهران فرد
4
...اتولوژی: DP-02-1200

" IMMUNOHISTOCHEMICAL STUDIES REPORT"

CLINICAL INFORMATION: Adrenal mass, R/O pheochromocytoma

SPECIMEN: Paraffin Blocks No: 1402-969, Shahid Beheshti Pathology Laboratory, Tehran

IHC MARKERS:
Immunohistochemical staining was done using antibodies against the following markers:

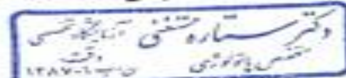
Markers:	**Description of reaction:**
Paraffin Blocks No: 1402-969,1:	
1 – Pan CK:	Negative in tumor cells
2 – Synapthophysin:	Positive in nearly all tumor cells
3 – Chromogranin:	Positive in nearly all tumor cells
4 – Tyrosine hydroxylase:	Positive in nearly all tumor cells
5 – S100:	Positive in some sustentacualr cells
Paraffin Blocks No: 1402-969,4:	
6 – Synapthophysin:	Positive in nearly all tumor cells
7 – Chromogranin:	Positive in nearly all tumor cells

INTERPRETATION:
- HISTOLOGICAL FINDINGS AND IHC RESULTS ARE THAT OF PHEOCHROMOCYTOMA

NOTE
Please also see the pathology report DP-02-1199.

بدون مهر پاتولوژیست فاقد اعتبار است

F.Kosari MD   M.Tavangar MD   F.Azadi MD   S.Mostaghni MD



۱۴۰۲/۰۴/۱۸

Ward: بخش : Room: اتاق :

پاتولوژی ed: 0 تخت :

تلفن آدرس و شماره:

بلوار استاد معین لعل اخر کوی پیروی پ۶

Adm Code:

Pathology Sample No: شماره نمونه پاتولوژی

IHC-۰۲-۲۱۸۲

Date of Report: تاریخ تنظیم گزارش : ۱۴۰۲/۰۴/۱۸ ۱۴:۰۶

Date Recived:

Biopsy Location and Sample Description:

Preservative:

Macroscopic Examination:

paraffin blocks No 02-969received fromTaleghani pathology lab ۵

Microscopic Examination:

Diagnosis:

IHC result:
ACTH:Positive in tumor cells (rechecked in blocks No:2 and 4)
CK: Negative in tumor cells

DX:Adrenal mass,designated as right ,resection:
Consistent with pheochromocytoma ,ACTH positive

Comment :

Dear colleague there are rare case report of ACTH producing pheochromocytoma in the literature

و امضاء پاتولوژیست:

دکتر النا جمالی : دکتر نفیسه مرتضوی: دکتر شهرام ثابتی:

IHC : ACTH Positive .

Drug History

Before Surgery

1. Phenoxybenzamine 20 mg BD
2. Valsomix 160/5mg BD
3. Ketoconazole 200mg BD
4. Verapamil 40 mg BD
5. Metohexal 95 , 47/5 mg Daily
6. Aldacton100mg BD
7. KCL 15% 180meq Daily
8. Insulin NPH and Regular
9. Enoxaparin 40 mg s.c Daily

After Surgery

Metoral 50 mg Daily

Vital sign :

BP:118/70

PR: 88

Before surgery

GHOLHAK LAB	1401.12.27
Cortisol (ODST)	38ug/dl <5
ACTH	326 pg /ml (7_63)
UFC	1237 micg/24h (3.5-45)
VMA (urine)	21.7mg/24h (up to 13.6)
Adrenalin (urine)	75nmol/24h (<110)
Noradrenalin(urine)	445micg/day (<90)

After surgery (1402.02.12)

PARS LAB	1402.02.18	1402.04.14	1402.05.18
cortisol	7.4 µg/dl هیدروکورتیزون میلی گرم 152 صبح شب 10میلی گرم	23 µg/dl قطع هیدروکورتیزون	
VMA (urine)	15.3 mg/24hr (2-12)		
Metanephrin (urine)	60 µg/24 hr (0-350)		
Normetanephrin (urine)	424 µg/24hr (0-600)		
ODST			1.5 µg/dl
UFC			82 µg/24 hr (36_137)
ACTH			58 pg/ml(7_64)

PLAN

- ✓ **After successful surgery** for a sporadic, single PH of 5 cm or less in diameter, patients should undergo clinical (search for adrenergic symptoms, determination of BP levels) and biochemical (determination of metanephrines)

- ✓ Earlier biochemical testing should be proposed if indicated by signs or symptoms of tumor recurrence, such as a rise in BP, weight loss, adrenergic symptoms, or compressive pain

Amar L et al. Long-term Follow-up in Pheochromocytoma … Horm Metab Res 2012; 44: 385–389.

CASE 2

- A 58-year-old woman **with a 5-year** history of increased facial hair, male pattern baldness, hirsutism, and **clitoromegaly.**

- Menarche at age 12,
- Two biological children without fertility problems.
- Natural menopause at age 52.
- She has not symptom of Cushing's syndrome.
- PMH: HTN (+)
- DH:Triamteren H

A patient with incidentaloma bilateral adrenal mass in ultrasound was referred to this center for further investigation

DX: ***ACTH-independent macronodular adrenal hyperplasy***

تاریخ: ۱۴۰۲/۰۲/۱۱ نام بیمار: سکینه لطفی منش

سریال بیمار: ۴۲۰۲۲۳۱۳ سن بیمار: ۵۸ سال

Dear Dr. mona azarakhshey

Technique: *Spiral CT-scan of Abdominopelvic cavity with and without contrast*

Findings:

There are multiple bilateral adrenal nodules with largest diameter of 50×36 mm in right and 34×20 mm in left adrenal.

These nodules contain fat and show avid post contrast enhancement.

In comparison with most recent previous images dated 1401/12 the lesions are stable in number and size.

Regarding to imaging findings probable macro nodular adrenal hyperplasia could be suggested. Other differential diagnosis include granolumatosis diseases and less probably lymphoma, correlation with clinical and lab data and if necessary tissue diagnosis is recommended.

Small fat containing umbilical hernia is noted.

Mild DJD changes of vertebra column is seen.

In limited cause of chest evidence of cardiomegaly is depicted.

The liver is normal in size and enhanced homogeneously, no liver mass is detected.

The gallbladder is fluid filled.

The portal and splenic veins are patent.

The spleen is normal in size and density.

The kidneys excrete contrast symmetrically, without evidence of hydronephrosis or mass.

There is no significant retroperitoneal adenopathy.

The bladder is normal in appearance.

The uterus is unremarkable.

No ascites is present within the abdominopelvic region.

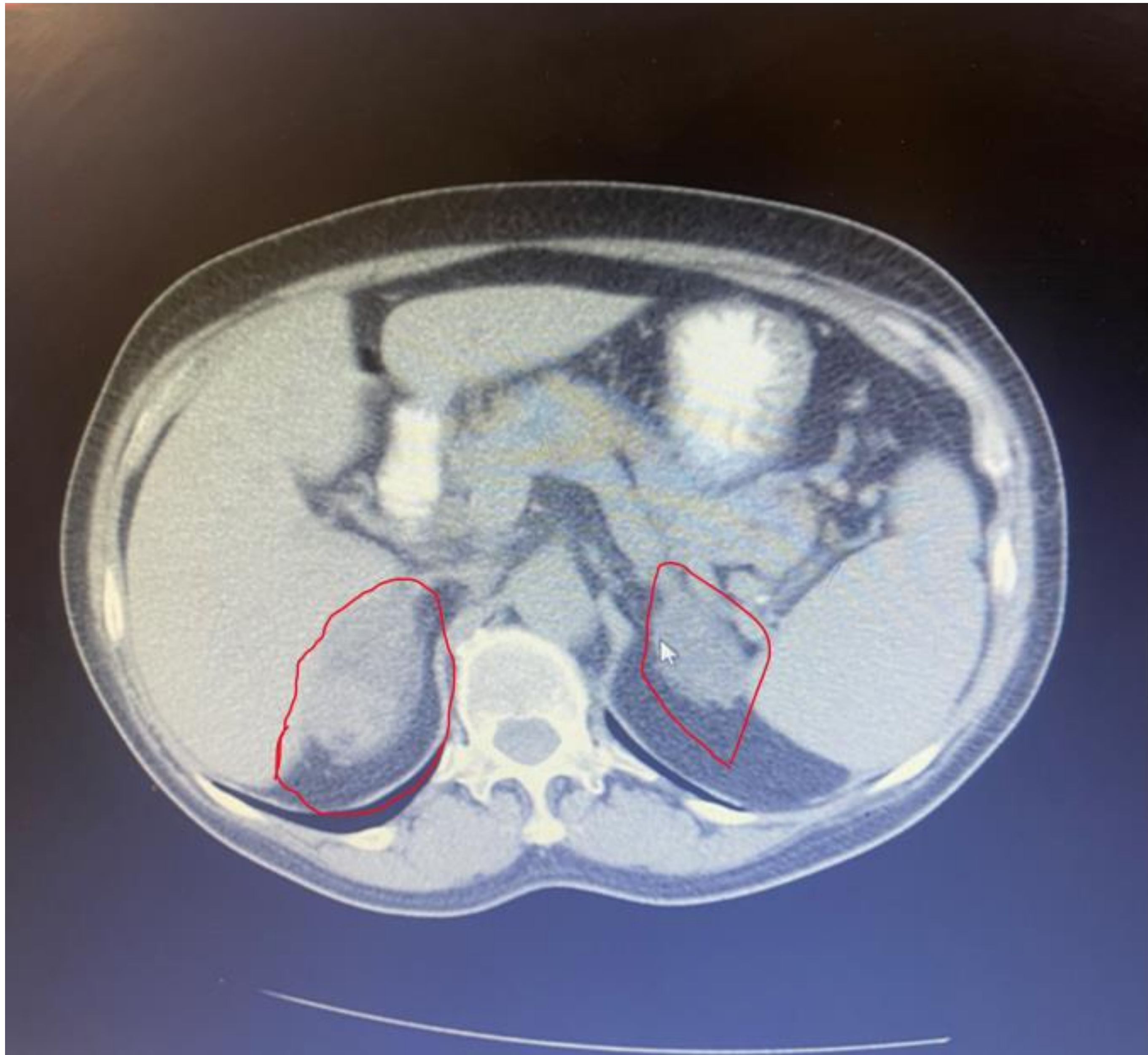
No significant pelvic lymphadenopathy is detected.

The peritoneal and omental fats are intact and clear.

There is no abnormal wall thickening in the course of the bowel loops.

sincerely yours ,

Abdominopelvic CT SCAN 1402/02/11
There are multiple adrenal nodules with largest 50*36mm in right and 34*20mm in left adrenal



PARS LAB	1402/04/03	1402.05.16	1402.07.02
		بعد از تزریق اولین GNRH	بعد از سومین تزریقGNRH
LH	22.4 IU/L	2	0.2
FSH	60 IU/L	9.6	12
DHEAS (29_182)	590 ug/dl	463 ug/dl	582 ug/dl
Testosterone Total	0.5 ng/ml		
Androstenedione (0.3_2.49)	5.2 ng/ml	3.9 ng/ml	3.9 ng/ml
ACTH	7.3 Pg/ml	<5 pg/ml	7.7 pg/ml
Cortisol (3.7-19)	4.1 ug/dl	3.1	3.5
UFC (29_182)	474 mcg/24h	263 mcg/24h	416 mcg/24h
17OH Progesterone (0.1-1.3)	0.3 ng/ml		

TREATMENT PLAN

- **Due to lack of therapeutic response to GNRH**

The patient was referred for laparoscopic right adrenalectomy.