

أبو القاسم الزهراوي : أب و رائد الجراحة وعلم الأمراض الجراحي

ABULQACIM AZZAHRAWI
[ABULCASSIS]

FATHER AND PIONEER OF SURGERY
AND SURGICAL PATHOLOGY

Professor Abdulkhaliq Ben Rajab
Tunis-Tunisia
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Dead Sea, Amman.

PATHOLOGY
IN ARAB-ISLAMIC
MEDICINE

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Tunisian Academy for Sciences,
Literature and Arts
BEIT AL HIKMA 2007

Before Islam :

-Arabs were Nomad people living

JAHILIYA ERA

ruled by:

- * Obscurantism
- * Injustice
- * IGNORANCE
- * Discrimination : Female Newborns and Girls
- * Slavery were buried alive.

So NO STABILITY.
NO CIVILISATION.

-In 612 Islam brought:

- * Freedom
- * Justice : * 1st Promotion of SLAVERY Abolishment
- * Heavy Encouragement to KNOWLEDGE Acquirement

One word [READ]

« READ in the name of your Lord who created.
He created human from crampton.

READ and your Lord is the most generous who taught with the Pen.
He taught human what he ignored. » (Crampon Sourat)

Revealed in 612 AC to Prophet of islam : Mohammad

GREEK

PERSIA

INDIA

CHINA

200 YEARS
SCIENCES TRANSLATION

A SCIENTIFIC MILLENIUM CIVILISATION

With own CONTRIBUTION in
ALL FIELDS OF SCIENCES Mainly in MEDICINE :

8 – 14th Centuries : THE GOLDEN ERA

ENCYCLOPEDIST SCIENTISTS wrote Medical ENCYCLOPEDIAS



HOUNEIN



Abul Mahassen

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-- IBN AL
KHATIB

-- IBN
KHATIMA

Described and
Studied

Plague/Pest

* Established
Preventive
Procedures

which

Prevented
Epidemia in
Europe in 1384

-- IBN NAFIS

: < Comment of
The ANATOMY of
the CANON > :

*** Discovered
Cardio-Pulmonary
Blood Circulation

*** Described
Capillary vessels
and Capillary
Circulation

In 1252

-- IBN SINA
(Avicenna) :

< The CANON of
Medecine >

-- AZZAHRAWI
(Abulcassis):

< GUIDANCE >
ATTASRIF

التصريف لمن عجز عن
التأليف

-- IBN ROCHD
(Averroes)

< Al Kollyett Fi Attib >

-- IBN ZOHR
(Avenzoer)

< Attaysir Fi Attib >

-- IBN AL JAZZAR

-- ARRAZI (
Rhazes) :

< Al Hawi >

-- Al
Majoussi

< The
Complete
Book
of Medecine

>

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IX-XIII AC

100 librairies
800 physicians
in Baghdad

Moslems physicians :

- Sorted medicine from philosophy and anatomy from sorcery and considered them as sciences.
- Separated :
 - medicine from surgery [Azzahrawi : 1st Book]
 - medicine from pharmacy.
- Established pharmacies and Synoptic Tables.
[Ibn Al Baytar]
- Introduced drug industry.

التصريف ATTASRIF GUIDANCE

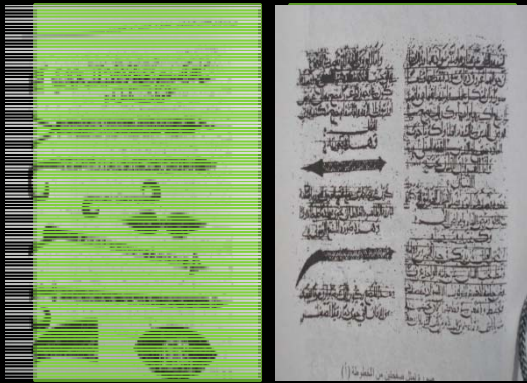
- **Abulqacim Khalaf Azzahrawi** [**Abulcassis / sis / cis**] :
- **936-1014 AC** : Andalusia, **Cordoba**, Al Madina Azzahraa
- **Main Book** : « Attasrif Liman Ajaza An Attaalif »

«التصريف لمن عجز عن التأليف»

« **GUIDANCE** FOR THOSE WHO CAN'T IMPROVISE »

- = **30** volumes : Indian Manuscript **1194** AC, Turkish Manuscript **1510** AC.
- The **XXX**th. Volume = **1st** **SURGERY BOOK**.
- * **Sigrid Huncke**: « This book played an important role in Europe where it established the basis of surgery which became independant by itself. »
- **1st ILLUSTRATED SURGERY BOOK** with INSTRUMENTS [many of which were made by Azzahrawi himself] and surgical DRAWINGS.
- **Translated 27 times** : to **Latin, French, English, spanish, turkish**.
Printed 27 times [**Lucien Leclerc 1896**] [**M.S.Spink; G.L.Lewis 1973**]
- **Referred to** more than **200** times by **Guy De Chauliac**.
- **Teached** in European Universities, Stood **500** years as the Leading Book on Surgery (**Encyclopedia Britannica**)

3 manuscripts



INDIA

Library Bankior
Batna

584 Hijri / 1180 AC



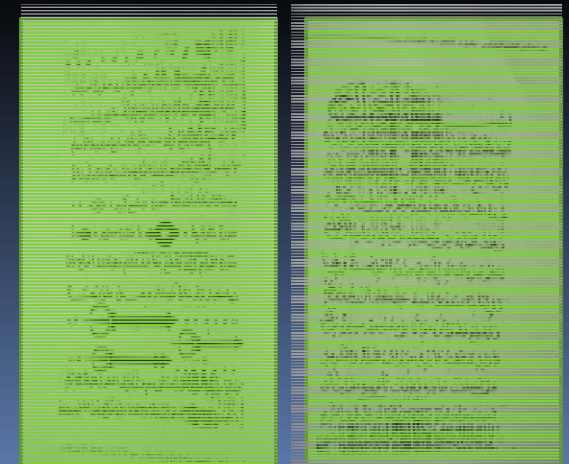
TURKEY

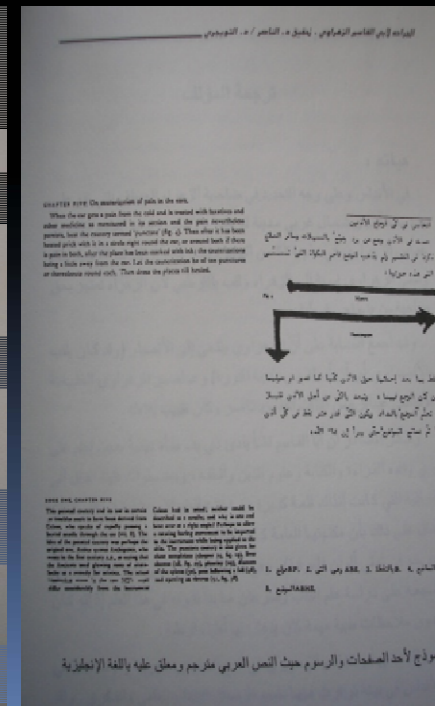
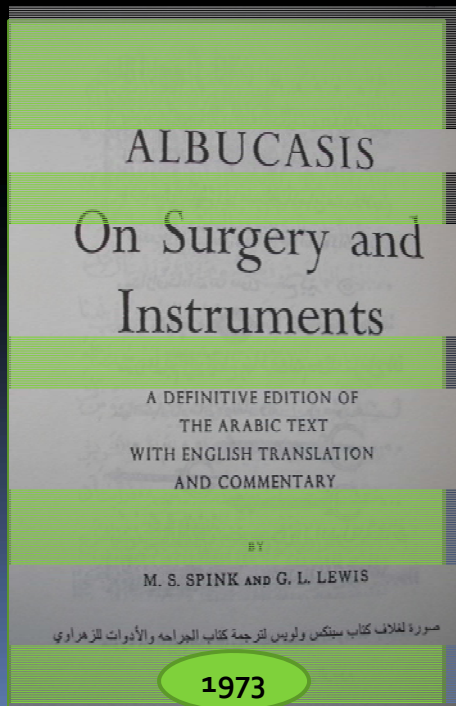
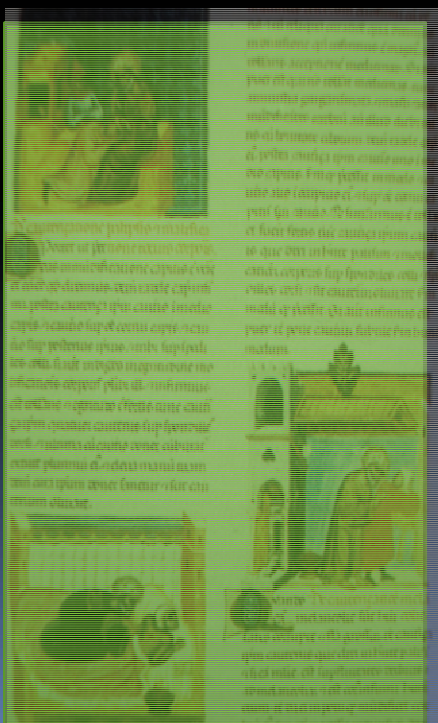
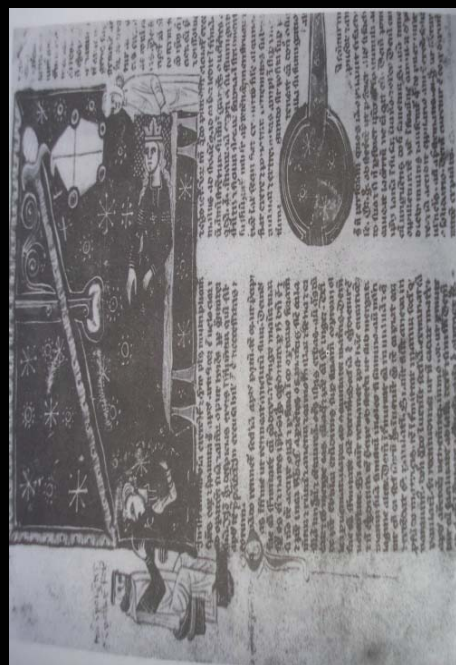
Slimaniya Library
Istanbul

902 Hijri / 1516 AC

IRAQ

Iraqi Scientific
Organisation
Baghdad





التصريف ATTASRIF GUIDANCE

- مقالة - مقالات : 30 Articles
- Article 1 : Temperaments - Compound drugs — Anatomy.
- Article 2 : Classification, Features and Treatment of Diseases.
- Article 3 - 25 : Drugs : treatment of Diseases of all organs.
- Article 26 : Foods advised for patients
- Article 27 : Properties of Drugs, Foods and medical chemicals.
- Article 29 : Drug Production
- Article 30 : SURGERY (420 pages 3 PARTS : أبواب - باب)

التصريف ATTASRIF

GUIDANCE- Article 30 - PART 2

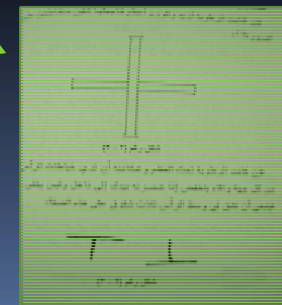
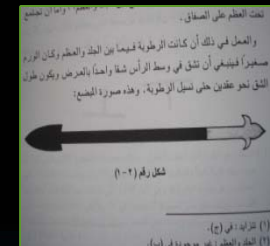
■ Chapter 1 : TREATMENT OF WATER COLLECTING in CHILDREN HEADS = HYDROCEPHALUS

« This ailment occurs frequently and exclusively in children at birth and is fatal. This humidity could collect either in subcutaneous or under the bone.

SURGICAL TECHNIQUE :

If the first case and if the tumor is small
you perform one incision as 2 knots large
following the mid width of the head and
you let flow the humidity. If the tumor is
greater, you perform one 2 crossed incisions.

If the humidity is under the bone
and you see all head stitches open,
you perform 3 T like incisions in the
middle part of the head and you care
not to cut a vessel to prevent hemorrhage so death of the patient. »



التصريف ATTASRIF

GUIDANCE- Article 30 - PART 2

- **Chapter 10 : Treatment of CHERNAK (LIPOMA) of the eyelid**
« CHERNAK of the eyelid is a fatty mass which occurs mainly in childrens..... »

Surgical Technique :

To treat it you fix it with two fingers.

Then you put on a circular thick thread you press to maintain the CHERNAK,

then you incise the skin with scalpel مبضع

in the width direction till

the chernak appears as a whitish fatty mass.

You pull it with white piece of tissue molded around your fingers. You move your hand laterally till the mass gets free... »

SCALPELS



التصريف ATTASRIF

GUIDANCE- Article 30 - PART 2

Chapter 3 : VASCULAR SURGERY TREATMENT of TEMPORAL ARTERITIS ARTERIAL LIGATURE

« If occurs in one patient migrain or an acute cold with heath in muscles or chronic headache unresponsive to various medical treatments,

we experienced in these diseases extirpation or cauterisation of Temporal Arteries.

Surgical Technique:

After shaving temporal hairs, you investigate temporal pulsatile visible artery then you take the cutter as the shape below. You pull the skin till you get to the artery then you take it with hooks and you pull it up out of the skin.....

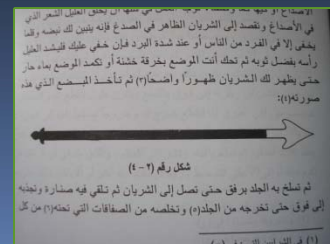
you ligature it in two sites with double silk thread....

then you cut in between

If Hemorrhage occurs, you press with your finger till hemorrhage stops. »

[Ambroise Paré, 16th century :

« Nobody performed this before me »]



« GUIDANCE », PART 2 CHAPTER 49

VASCULAR SURGERY:

TREATMENT OF VASCULAR ANEURYSMS

- 2 kinds of Aneurysm :
- *arterial : *the tumor is elongated and deeply located
- *venal : *the tumor is rounded and superficial.
- « When an artery is wounded and the skin which covers it heals, a tumor often occurs, as well as in case of vein wound. In the first case the tumor is elongated and deeply located. If you palpate it you perceive a thrill. In the second case the tumor is rounded and superficial. »

Surgery of such tumors is dangerous

Surgical Technique : « If arterial tumors are considered, you have to cut the skin longitudinally, to open the wound by hooks and to separate the artery from fascia. Then you introduce underneath it a needle you pass to the other side of the artery and

you ligature the artery with a double thread in two sites...

then you incise the artery in between the two ligations

You evacuate the whole blood contained in the tumor

and the tumor will disappear. »

- [John Hunter 1728 -93 : Claimed he was 1st to do this]

« GUIDANCE », PART 2 CHAPTER 56

VASCULAR SURGERY

TREATMENT OF VASCULAR HEMORRHAGE

5 MEANS :

- 1- Finger pressing and tight bandage.
- 2- Cauterization .
- 3- Vessel sectioning :
vessel rupture causes : * vessel retraction
* bleeding arrest.
- 4- Vessel tight ligature.
- 5- Hemostatic drugs

Chapter 81 : resection of hemorrhoids

Chapter 91 : resection of varices

التصريف ATTASRIF

GUIDANCE- Article 30 - PART 2

■ Chapter 24 : Treatment of Tumors growing in the nose.

« Various tumors could grow in the nose.

- * Some of them look like millepedes [*Papillomas] ,
- * others are cancerous, *stony and dark colored tumors,
- * others are soft and dark colored tumors [*polyps ?]. »

Surgical technique:

For benign tumors, you let the patient sit down in front of you, his face being turned to the sun. You open his nose and you maintain these tumors with hooks and you pull them out and **** cut them completely** by a scalpel.

If some tumor part remains and you can't remove,
you have to rasp it with some smooth instruments
till entire disappearance.

Inspired from children games, Abulqasim **improvised technique with knotted thread**
Introduced by the patient nose and sorted by his mouth to excise deep seated tumors

***** « ... You treat malignant tumors by cauterisation till entire removal .**
and then you put vinegar and salt. »

If hemorrhage or oedema occurs you have to treat by appropriate therapy. »

التصريف ATTASRIF

GUIDANCE- Article 30 - PART 2

- Chapter 36 : Treatment of Tumors of the THROAT (1)
- « Tumors of the throat other than the tonsillae [nasopharynx] could occurs.
- Once, I treated a tumor in a woman which grew in her throat and was darkish colored, painless and obstructive.
- The women was breathing through a narrow canal and could neither eat nor drink water. She might die if that situation yet continued one or two days.
- The tumor had two branches issuing from both nasal orifices.

Surgical Technique:

I fastly put a hook in each branch and pulled it out and cut the tumor part I could reach through the nasal orifices. Then I opened the patient 's mouth and I pressed it's tongue and then I put a hook in the tumor mass and cut a part. Mild bleeding occurred.

التصريف ATTASRIF

GUIDANCE- Article 30 - PART 2

* Chapter 36 : Treatment of Tumors of the THROAT (2)

The woman throat became free.

She promptly drunk and ate.

I kept cutting parts of that tumor several times and for longtime,
but the tumor kept recurring and growing till I was desperated.

I improvised to cauterize the tumor within the patient's throat.
The tumor stopped growing.»

[= Radiotherapy – like effect]

Chapter 43 : TRACHEOTOMY for THROAT obstructive TUMOR

Surgical Technique :

« You may perform a small incision below 3th or 4th. tracheal rings,
in the membranous non cartilaginous area which is convenient for this incision
because devoided of muscles and vessels.

The proof of success is given by the issue of mucus and voice loss.

If obstruction is releaved, you stitch the wound. »

I have been called to treat one made who wounded her trachea by a knife. ...
there was little hemorrhage and air was issuing from the wound. I stitched up the wound
and treated it till healing. Nothing occurred in the made except horseness.

So we say that tracheotomy is, Godwilling, harmless. »

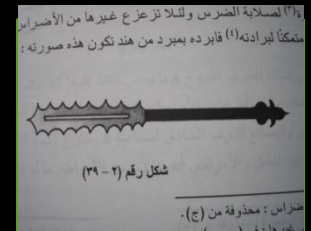
التصريف ATTASRIF

GUIDANCE- Article 30 - PART 2

* Chapter 32 : RASPING of teeth growing in abnormal position

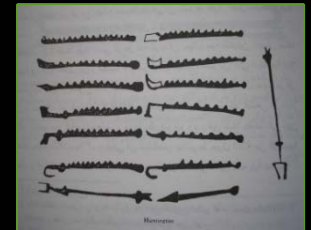
= « Early ORTHODENTIA »

« If a tooth grew in an abnormal position, you rasp it with an indian rasper as the drawing. »



* Chapter 33 : Teeth TRANSPLANTATION

= « Early ORGAN TRANSPLANTATION »



« We can sculpture a cow bone to make a teeth shape like and put it at the site of the lost tooth and fix it as described. An experienced and carefull surgeon could achieve this .»

التصريف ATTASRIF

GUIDANCE- Article 30 - PART 2

■ Chapter 34 : Cutting Sublingual String رباط

« This string could exist at birth or could follow a healed wound.

You open the mouth of the patient and you cut it. »

■ Chapter 35 : Excision of Sublingual Frog (RANULA) الضفدعة

- « A tumor resembling a small frog could occur under the tongue and could grow to fill the mouth.

You open the mouth of the patient and you observe the tumor.

If it is of dark or black color and painless, it is cancerous. Don't touch it.

If it is watery, whitish colored, filled with fluid, take it with a hook,

cut it on all sides with soft scalpel and excise it completely. »

• Chapter 42 : Excision of cervical lymphadenopathies خنازير العنق

« These tumors could occur in the neck, the axillae and in all the body and

* could be numerous.

They *could be stony or filled with bad humidity.

If they are superficial, free, not attached to a nerve or a vein or an artery,

you can incise it vertically and take it out slowly

with care not to cut a vessel or a nerve. »

التصريف ATTASRIF

GUIDANCE- Article 30 - PART 2

Chapter 44 : Incision of External Tumors of the Neck

« FIRST THYROID SURGERY »

« That tumor called « Cyst of the Neck »
occurs more frequently in women, could reach huge size.

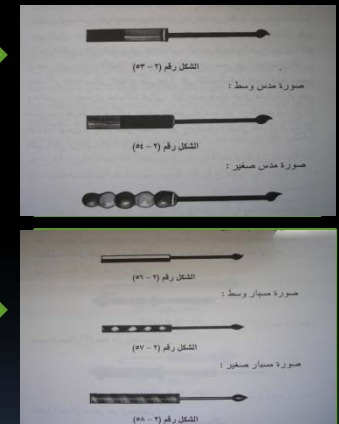
مدس-مدسات

Surgical technique :

*** « If it is of small size and
looks as Fatty Cysts (= Colloid)
AFTER PROBE INVESTIGATION ,
and if is not attached to any vessels,
you perform incision and you get it
out with it's surrounding cyst
(capsule). »
[= COLLOID ADENOMA]

مسبار-مسابير

PROBES



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GUIDANCE- Article 30 - PART 2

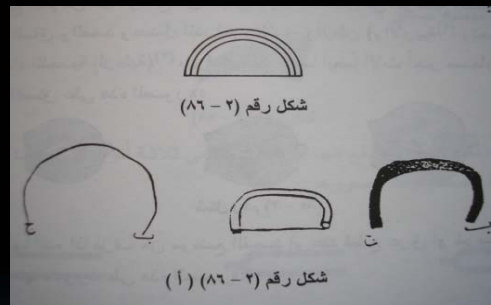
■ Chapter 47 : BREAST SURGERY

Treatment of GYNECOMASTIA

« Some male adolescent patients undergo breast tumefaction

which could be huge and inesthetic. For those who dislike it,

you perform **semi lunar incision** as the next drawing :



Then dissect the whole fat, fill the wound with regenerative medicine ,
gather and stitch the two wound edges and treat till complete healing.

If excision is incomplete you fill the wound with corrosive ointment (pomad)
to achieve lysis of residual fat. »

التصريف ATTASRIF

GUIDANCE- Article 30 - PART 2

** Chapter 53: SURGERY OF CANCER

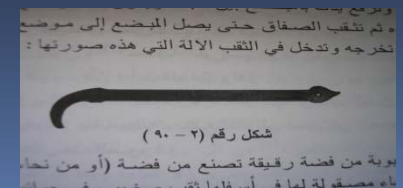
« If the cancer is small and located in an accessible organ as the breast or the thigh ..., where the cancer could be totally excised, you install the patient, then you plant appropriate hooks in the cancer, you dissect it widely with the skin on all sides not to leave any root, then press all thick blood in the area. If important hemorrhage occurs by arterial or venal wound, cauterize the vessel till hemorrhage stops, then treat till healing Godwilling. »

* Chapter 54: Draining of ASCITIS

« You let the patient in standing up position. Behind him your assistant press his womb to collect the fluid. You incise the skin and the peritoneum, 3 fingers laterally to the ombilic site, you introduce a tube like instrument with 1 whole below and 3 Wholes laterally. Fluid will flow. You drain a medium quantity. Repeat this severals days till almost all fluid is evacuated. »

أنبوبة

CANNULA



التصريف ATTASRIF

GUIDANCE- Article 30 - PART 2

- Chapter 55 : Treatment of *urethral imperforation
*urethral stenosis
*Hypospadias

« Some new borns have their glans imperforated or with narrow orifice.

If case of * imperforation, you make a whole with a very thin scalpel,
then you install a thin leaded nail you fix for 3 days and which can be removed for urination.

In case of * narrow orifice, you treat with nail as described.

In case of * ectopic orifice (hypospadias), you install the patient on his back,
You pull extremely his glans with you left hand, you sharpen it with scalpel as a pencil
to get the orifice correctly at the center.

If hemorrhage occurs, treat it with appropriate with hemostatics.

Then treat the wound till healing. »

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GUIDANCE- Article 30 - PART 2

- Chapter 56 : Treatment of *excessences in prepuce and glans
[CONDYLOMAS - CANCER]

« Frequently theses excessences occur in the urethra.

They correspond to bad flesh

of two kind :

* non malignant :

you pull it with a hook and you cut it.

Then you treat it with corrosive ointment,
then palm pomad till healing.

* malignant :

you cut it, rasp it
then cauterize it. »

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GUIDANCE- Article 30 - PART 2

* Chapter 71 : Excision of :

* large Clitoris [* Clitoris Hypertrophy].

« Clitoris could increase in size and becomes huge in some women

Take it with your hand or with a hook and
cut the exceeding growth.

* flesh growing in vagina. [* Vaginal and Cervical POLYPS]

« Flesh growing in the vagina could get out of the vagina as a tail »

. You should cut it as described for clitoris.

* Chapter 73 : Treatment of *warts and *red polyps in vagina

« For Warts that occur in vagina orifice.

the patient may be installed in a cold room.

Then you pull warts and cut them at their basis.

Then you treat with hemostatics and ointment till healing.

[CONDYLOMAS]

For red polyps, you cut them as described in warts. »

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GUIDANCE- Article 30 - PART 2

■ Chapter 57 : Pathology of UTERUS.

- CANCER

- ULCERS

- Abcess

- Chancre

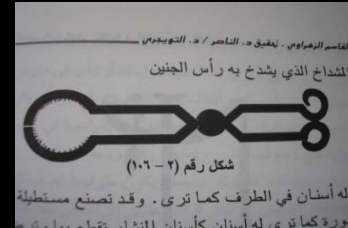
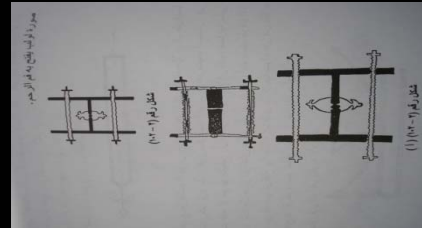
[discussed in Article 2 on classification, features and treatment of Diseases]

التصريف ATTASRIF

GUIDANCE- Article 30 - PART 2

Chapters 76–77 : Extraction of DEAD FOETUS / Instruments

2 screw instruments
for cervical orifice
dilatation لولب



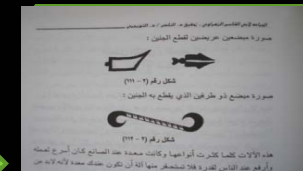
EMBRYO
TOME

مشدخ

Abulcassis reported the 1st case of lithopedon = Stonified (calcified) dead fetus passed in the abdominal cavity.

مبضع

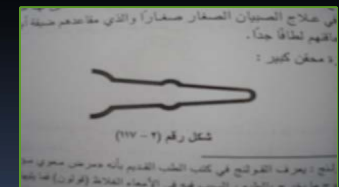
Scalpel



Chapter 60 : Stones extraction from urinary tract.

- * Stones could occur in the kidney, in the bladder and in the urethra.
- * Stones could be smooth or angulated and spiny, could be small or big.

Chapter 92 : Extirpation of MEDINA FILARIA



Instruments for ENEMA

« It was in Sicilia of Normands and Frederic II that was birth the modern occident for which the arab spirit had been the progenitor.»

(Sigrid Hunke, Allah Sun Shines on Occident, p303)

« Arabs let an own patrimony which was more important than that they translated. Not only they transposed ancient knowledge but they invented new one and were our ancestors in developing modern chemistry, optic science, astronomy, physics, geography, history (Ibn Khaldun), maths, genetics and reproduction sciences. Famoust scientists kept appearing till 14th century and beyond 14th century.»

« Acquirement of experimental spirit was related first to moslems efforts, then has been copied by christians. Experimental spirit started with chemistry, maths, optic science (Ibn Al Haytham : Al Hazan).»

« Baghdad had been for a long period of time the world capital.»

(George Sarton, History of Science, p 156 - 182.)



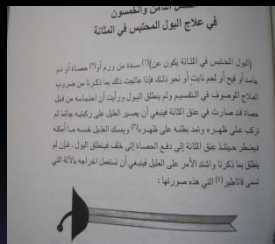
” والصانع الحادق يصنع لنفسه آلات ”

« Skilful Surgeon

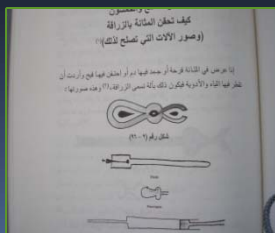
Manufactures His Own Instruments »

(Abulqacim Azzahrawi

[Abulcasis])



Bladder Catheter



Seringe for bladder lavage

Cordoba Azzahra Palace

قصر الزّهراء قرطبة



Cordoba Azzahra Palace قصر الزّهراء قرطبة



Cordoba Mosك جامع



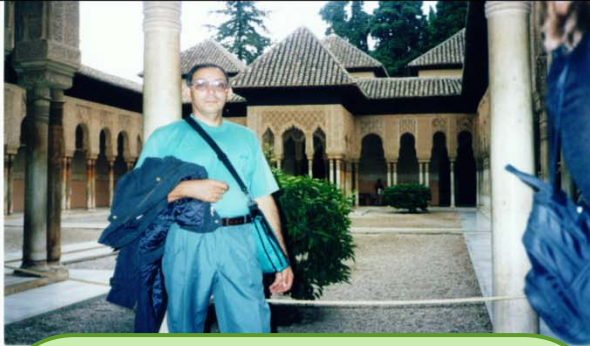
Cordoba Mosk



جامع قرطبة



Al Hamra Palace, Granada 1998 قصر الحمراء غرناطة



PATHOLOGY IN ARAB-ISLAMIC MEDICINE

Abdulkhaliq Ben Rajab
unisian Academy for
Sciences,
Literature and Arts
BEIT AL HIKMA 2007



CORRECTION of the ANATOMY of the HEART and DISCOVERY of BLOOD CARDIO-PULMUNARY CIRCULATION

by IBN NAFIS
Abdulkhaliq Ben Rajab
SADIM Edition 2009
Tunis

