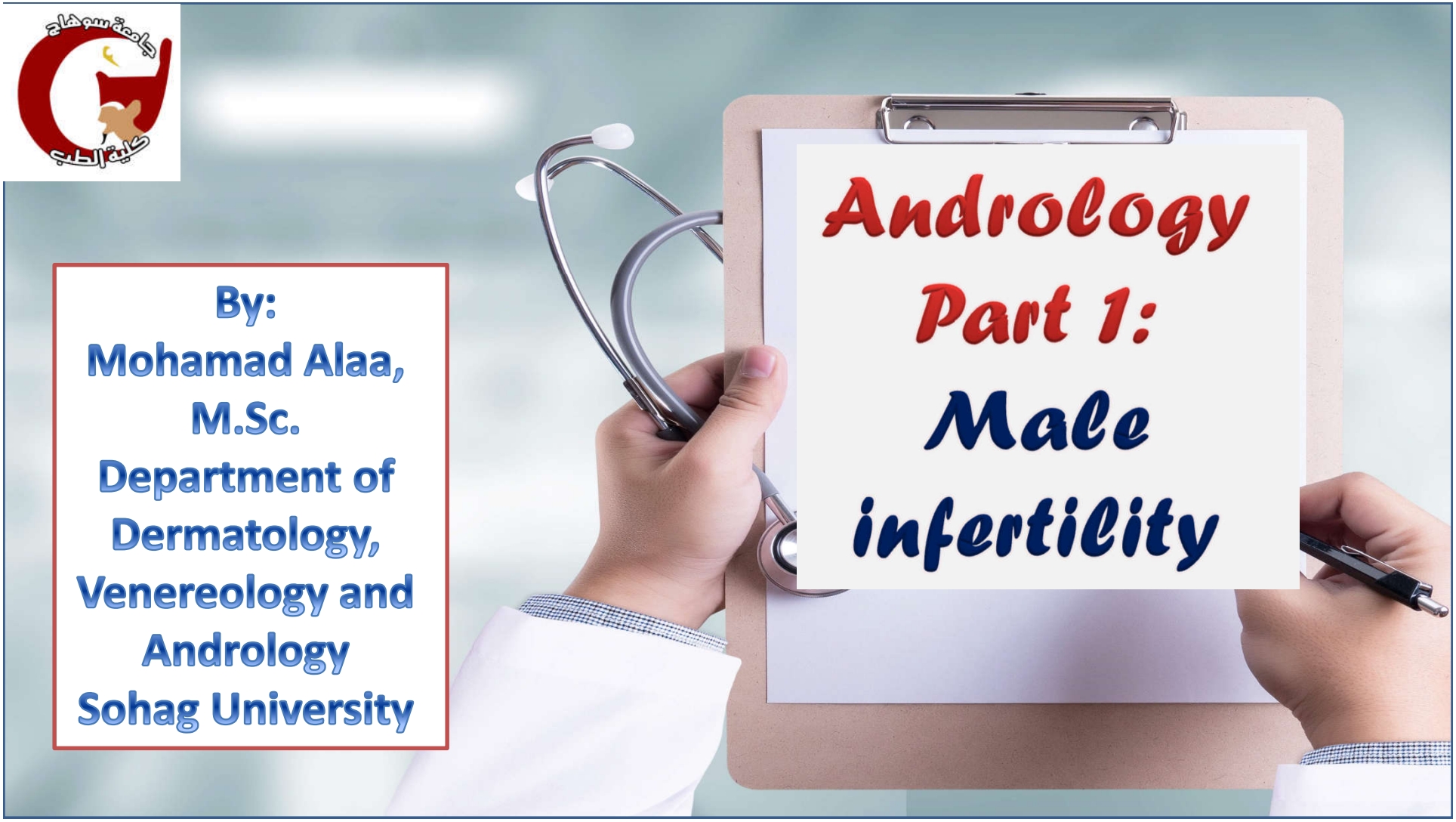

By:
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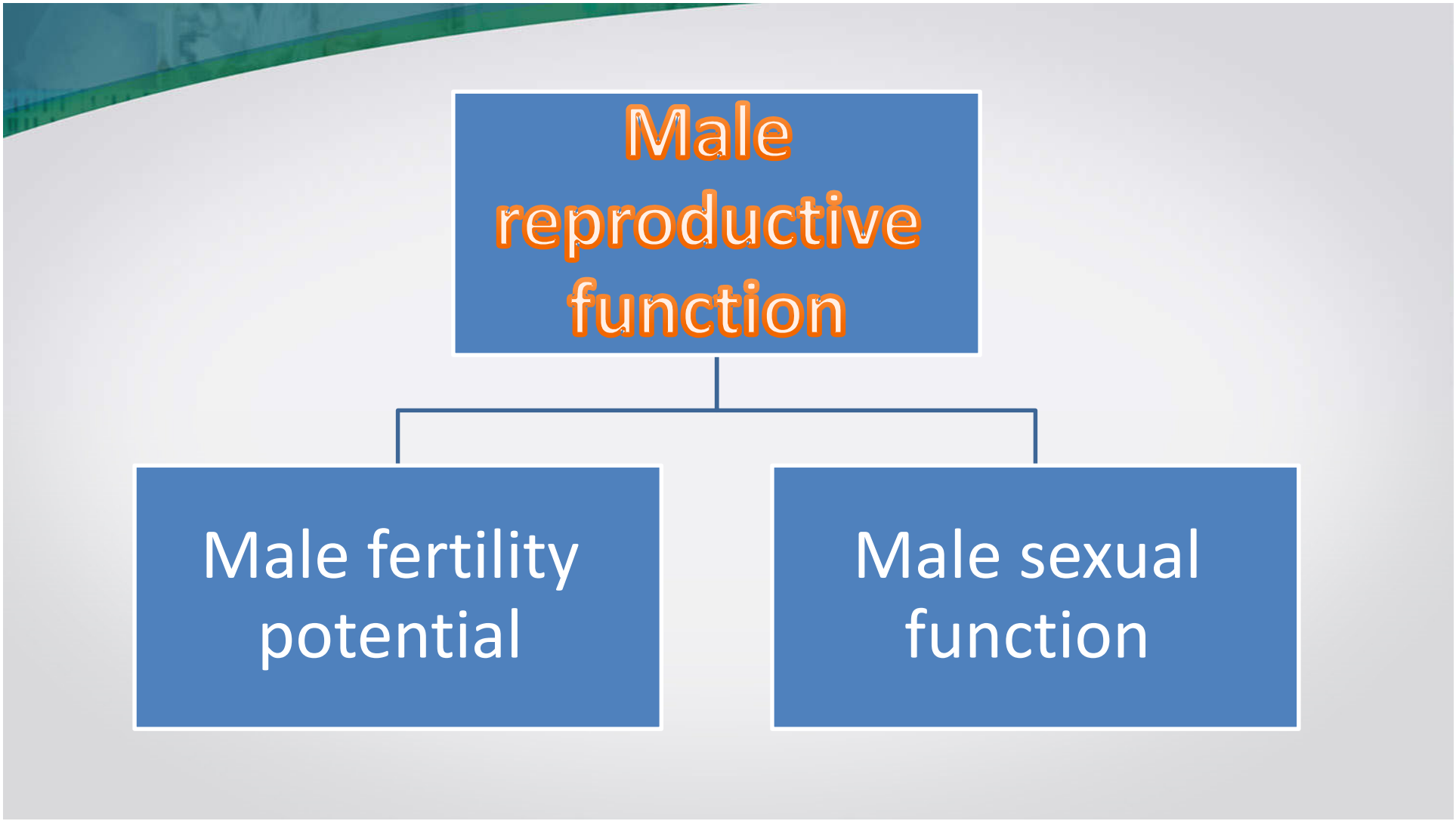
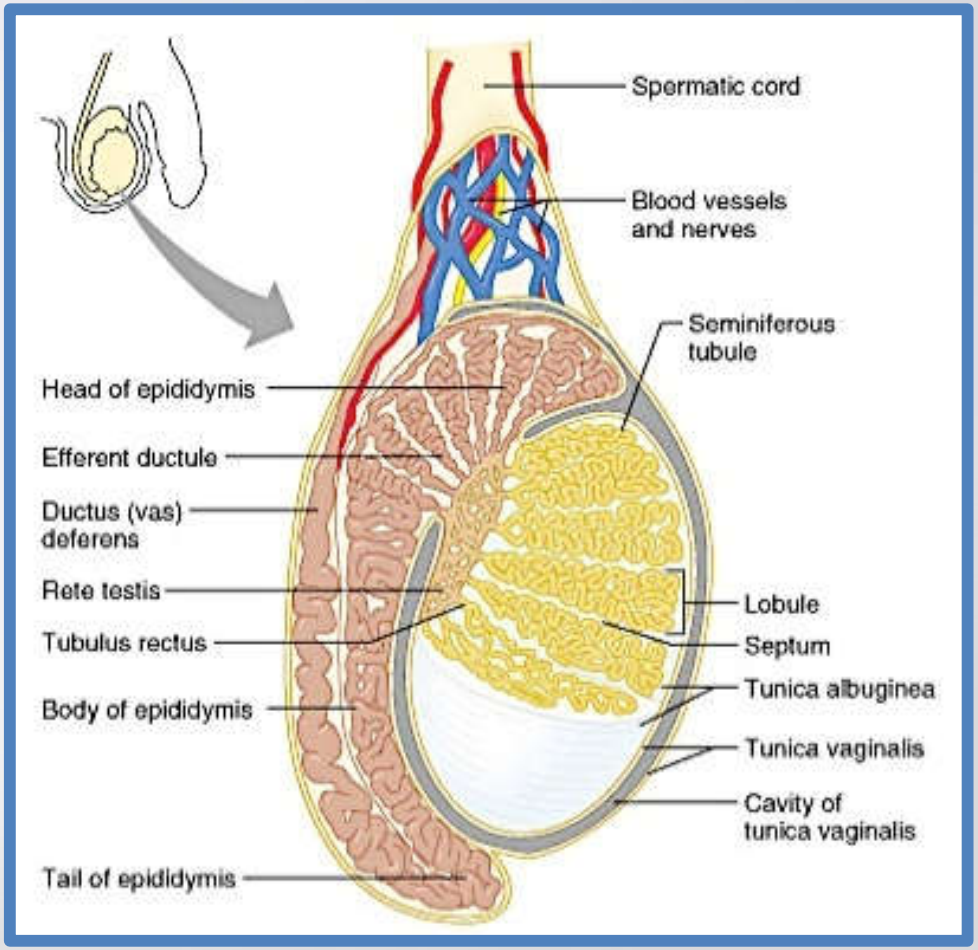
Andrology

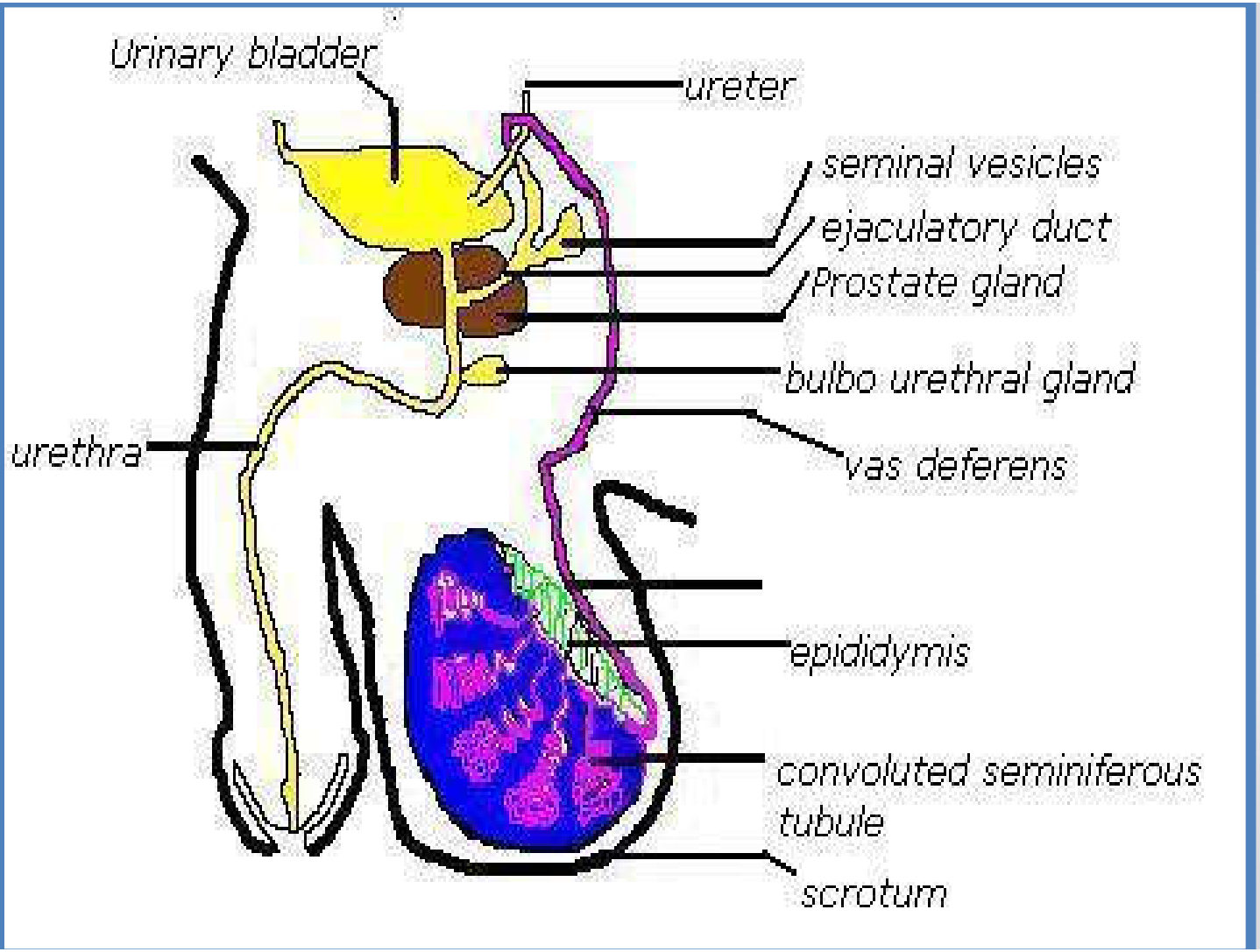
- ✓ **Branch of medical science concerned with study of physiological and pathological aspects of male reproductive tract.**


Male reproductive function
Male fertility potential
Male sexual function

Testis

- ✓ **Anatomy**
- ✓ **Functions**
- ✓ **Hormonal control**




Urinary bladder
ureter
seminal vesicles
ejaculatory duct
Prostate gland
bulbo urethral gland
urethra
vas deferens
epididymis
convoluted seminiferous tubule
scrotum

Definition:

Failure of conception after at least a year of regular unprotected intercourse

Primary infertility:

When the man has never impregnated a woman before

Secondary infertility:

When the man has impregnated a woman before

Etiology of male infertility

A) Functional causes :

1. Chromosomal anomalies e.g Klinefelter's Syndrome (47 xxy)
2. Sertoli cell only Syndrome
3. Undescended testis (bilateral)
4. Varicocele

Etiology of male infertility

5. Hypogonadism and hyperprolactinemia
6. Post-pubertal mumps & leprosy orchitis
7. Chemical e.g cancer chemotherapeutics
8. Irradiation
9. Excessive heat exposure
10. Idiopathic

B) Obstructive causes:

1. Congenital Bilateral Absence of Vas Deferens (CBAVD)
2. Post inflammatory e.g Bilharziasis, TB and gonorrhoea
3. Surgical trauma with vasectomy e.g herniorrhaphy

Diagnosis of male infertility

A) History and clinical examination:

1- History:

- 1ry or 2ry infertility
- Duration and regularity of marriage
- Sexual and ejaculatory function
- Fever during past 6 months
- Chronic diseases e.g. T.B., D.M. - Hormonal treatment
- Chemotherapy, radiotherapy or surgery

2- Clinical examination:

* General: 2ry sexual characters or gynaecomastia

* Local:

  - Penis for ulceration, hypo- or epispadius
  - Testis for size, consistency and descent
  - Epididymis for nodules or cysts
  - Spermatoc cord for varicocele (grades)
  - Prostate by PR

B) Investigations:

- Semen analysis
- Hormonal assay (FSH, LH, testesterone & prolactin)
- Scrotal U/S to detect Varicocele
- Transrectal ultrasonography to study the prostate, seminal vesicles and ejaculatory ducts

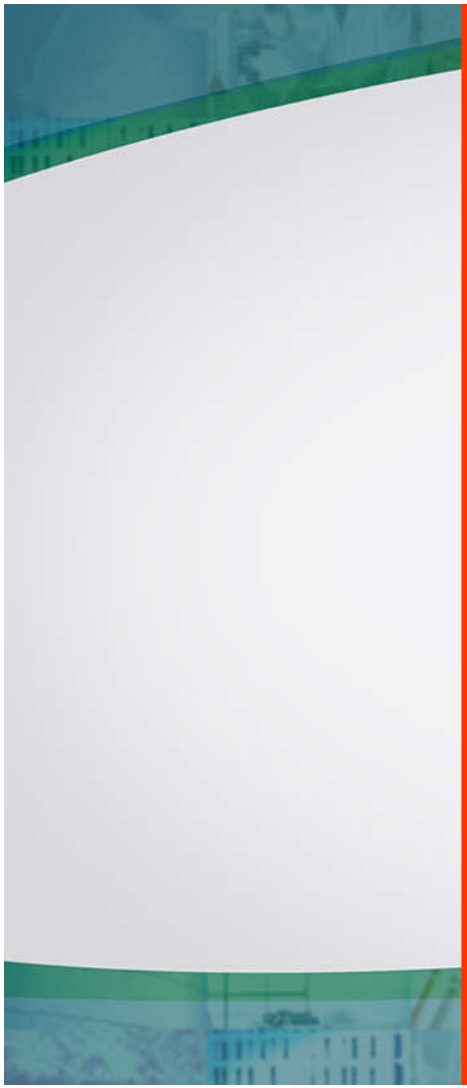
B) Investigations:

- Chromosomal study (Klinefelter's Syndrome)
- Testicular biopsy, to differentiate between functional & obstructive azoospermia

Semen analysis

Semen: male reproductive fluid containing spermatozoa

Organ	Contribution, %
Seminal vesicles	65-75
Prostate	25-30
Vas deferens	5-10
Bulbourethral glands	1-2



(1999)

مستشفى سوهاج الجامعي
قسم الأمراض الجلدية والتناسلية

STANDARD SEMEN ANALYSIS

NAME:.....DATE: .....
ABSTINENCE PERIOD: .....
METHOD OF OBTAINING SPECIMEN:.....

Physical characters

1-Coagulum:.....(Present in fresh semen)
2-Liquefaction time:.....(10-20 minutes)
3-Volume:.....(2-6 ml)
4-Colour:.....(Translucent to whitish gray)
5-Odour:.....(Characteristic)
6-Consistency:.....(Threading not more than 2 cm)
7-Reaction:.....(Alkaline, pH 7.2-7.8)

Microscopic characters

1-Sperm concentration:.....(20-250 million /ml)
2-Total sperm count:.....(40 million or more)
3-Sperm motility:(*A*: 25%or *A*&*B*: 50% or more within 60 minutes)
A: rapid linear forward motility.....
B: slow linear and non linear progression.....
C: non-progression motility.....
D: immotile.....
4-Normal sperm forms:.....(≥50%)
5-Agglutination:.....(≤10%)
6-Round cells:.....(0-10/HPF)
8-Others:.....

STANDARD SEMEN ANALYSIS
(WHO 2010)

NAME:... ..... DATE: .....

ABSTINENCE PERIOD: ..... (2-7 days)

METHOD OF OBTAINING SPECIMEN:.....

Physical characters

1-Coagulum:..... (Present in fresh semen)

2-Liquefaction time:..... (Within 15 minutes)

3-Volume:..... 1.5ml (1.4-1.7)

4-Colour:.....(Translucent to whitish gray)

5-Odour:..... (Characteristic**)**

6-Consistency:..... (Threading not more than 2 cm)

7-Reaction:..... (Alkaline, pH ≥7.2)

Microscopic characters

1-Sperm concentration:.....≥ 15million /ml

2-Total sperm count:..... ≥ 39 million /ejaculate

3-Sperm motility:

Progressive motility(PR %): ..... ≥ 32%

Total motility (PR+NP %)..... ..... ≥ 40%

Immotile.....

4-Normal sperm forms :..... ≥ 4%

5-Agglutination:..... ... (≤10%)

6-Round cells:..... (< 1 million)

7-Others:.....

Remarks:

Semen abnormalities

- **Aspermia:** **No ejaculate**
- **Hypospermia:** **Semen volume less than 1.5 ml**
- **Azoospermia:** **No sperms in the ejaculate after centrifugation (and careful examination)**
- **Oligozoospermia:** **Sperm concentration less than 15 millions/ ml or total count less than 39 million.**
- **Asthenozoospermia:** **PR < 32% or TM < 40%**

Semen abnormalities

- **Teratozoospermia: Abnormal forms more than 96%**
- **Necrozoospermia: All sperms are dead**
- **Pyospermia: Pus cells more than 1 million /ml**
- **Hemospermia: Presence of RBCs**

Varicocele may lead to stress pattern (OAT, Oligo-astheno-terato-zoospermia)

Treatment of male infertility

A) Medical treatment:

- Replacement therapy by FSH & LH to treat hypogonadotrophic hypogonadism
- Bromocriptine to treat hyperprolactinemia
- Treatment of immunological infertility and infections
- Non-specific treatment by antiestrogen (clomiphene citrate), antioxidants or vitamins

B) Surgical Treatment:

- Varicocelectomy for the Varicocele
- Epididymovasostomy for epididymal obstruction

C) Assisted Reproductive Technologies (ART):

- **Artificial Insemination using Husband's semen (AIH)**
- **In Vitro Fertilization (IVF)**
- **Intracytoplasmic Sperm Injection (ICSI)**

- **ICSI can help many of those previously considered hopeless:**

1. **Severe cases of oligo-asthenozoospermia**
2. **Obstructive azoospermia**
3. **Azoospermic patients with focal spermatogenesis**


THANK
YOU