

*Prostate cancer:

- 2nd most common cancer in men. in USA 1st
- 5th most common cancer cause of death worldwide. in USA 2nd
- in USA 1st common due to: African american race
- old age and risk increase by aging as BPH
- “BPH come in inner zone called transitional zone”
but prostate cancer in outer “peripheral” zone
- in biopsy by transrectal not transurethral
- transrectal biopsy risk for sepsis but used to detect peripheral zone.
- transurethral biopsy (-) for transitional zone

risk factor:

- age most important risk
- familial mainly in 1st degree
- one 1st degree relative have prostate cancer doubled the risk
- two 1st degree relatives have prostate cancer increase risk 4 times.
- BRCA 2 increases risk to breast, ovary and prostate cancer.
- race: african american. due to androgen level in black people higher than white
- Geographic variation: the disease is commoner in Western nations, particularly Scandinavian countries and north america عشان فش شمس
- dietary: يزود الريبسك fat ممكن ال
- obesity
- The Selenium and Vitamin E: independent factor
- Dutasteride: 5-alpha reductase inhibitor decrease risk for cancer
- 5-alpha reductase convert testosterone to dihydrotestosterone
- Exercise reduce risk

SCREENING:

for men between 55 and 69 years of age
by Prostate-specific antigen (PSA)

المشكلة انو حامل و بده سنين كثير عشان يبين

- screening for african american and family history start at age 40
- بنعمل ال screening كل 6 شهور ل سنة بنعمل PSA and DRE
- Screening increase 10y survival rate for men diagnosed by 84%
- PSA more than 10 → cancer
- PSA less than 4 → mostly exclude cancer
- PSA between 4-10 → gray zone need further investigation as PSA Density, PSA Velocity or ratio between total and free PSA.

-after PSA next step is biopsy → transrectal truecut

apical and far-lateral cores بنأخذ 12 عينة

*contraindications to prostate biopsy: Significant coagulopathy, severe immunosuppression, and acute prostatitis

antibiotic prophylaxis حكيأنا انو transrectal بتزود الخطر ل sepsis ف لازم نعطي

*Risks and Complications of Biopsy:

-Bleeding is the most common complication Hematuria, hematochezia, and hematospermia should be expected. self limited

-Infection ranging from cystitis and orchitis to sepsis is the most

*The commonest (>95%) primary Prostate Cancer is adenocarcinoma

-spread: locally to lymph nodes: internal, external, and common iliac

-blood spread: mainly to bone. due to valveless vein “communication between prostate vein and axial skeleton veins”

-more than two thirds of bone mets come from the breast and prostate.

prostate mets: osteogenic mets

breast mets: osteolytic

-by direct invasion:rarely invades through Denonvilliers fascia to involve the rectum.

*Staging:

by collection of (DRE, PSA values, needle biopsy findings, and radiologic imaging)

T1: incidentally discovered

T2: localized

T3: outer capsule

T4: adjacent structures

M0: no mets

M1: mets

-TNM staging more important than grade

Gleason score: depend on tumor morphology and architecture

most predominant بكون رقمين جنب بعض الاول الي هو

4+3→ more aggressive لأنه ال4 اول ف هي more predominant

3+4

*IMAGING OF THE PROSTATE

1-Multiparametric MRI: 3 dimensions

2-Prostate-Specific Membrane Antigen (PSMA) scan.

بنحقن مواد مشعة حثليزق في خلايا الكانسر وتشع واعرف مكانها لو بدى اخذ منها biopsy

*Metastatic workup:-

Bone scan is indicated for patients with PSA more than 20 or symptomatic or Gleason score more than 8.

*MANAGEMENT:

metastasis PROSTATE CANCER: -radio,chemotherapy

-surgical bilateral orchiectomy to stop androgen synthesis

Localized: -Active surveillance: بستنى اقرر اللحظة الي حثدخلى فيها لازم يكون

PSA less than 15

T1 or T2

Gleason score less than 3+4

fit for surgery

every 6 months do PSA, every 1-2 years do biopsy if there upgrading حثدخلى

-watchful waiting: حثخصو كانسر وما اعمل اله اشى لانه

old age more 70

comorbidities

not fit for surgery

-radical prostatectomy: prostate with seminal vesicles with lymph nodes.

-radiotherapy

*Testicular Cancer:

-is the commonest solid cancer in men aged 20–45. هاي خطورته

very rare above 50

-most common cause of bilateral testicular cancer: lymphoma

-discovered incidentally as a swelling

risk factors:

-age: 20-45 years

- Race: white Caucasian people living in Europe and the USA have the highest risk.

-previous testicular cancer increase risk 12-fold

-undescended testis “Cryptorchidism”: increase risk mainly to seminoma.

cancer in children: yolk sac tumor

intersex cancer”germ cell–sex cord–stromal tumor”: gonadoblastoma

- HIV: increase risk for seminoma
- Hereditary factors: first-degree relatives of TC sufferers are at higher risk by 4-fold if one affected
if two affected increase risk by 8-fold
- Genetic factors: P53 or 12P
- Maternal estrogen exposure:
- Very tall men:klinefelter syndrome increase risk by 3 folds

-testicular tumors: 99% malignant
hard swelling in testis→ cancer

*classification of TC:

- 1-Germ cell tumors more than 90%
- 2-sex cord stromal cell tumors as sertoli cells and leydig cells
- 3-others: gonadoblastoma, lymphoma and 2ndary as leukemia

*Germ cell tumors:

- 1- seminoma: arise from spermatocyte in seminiferous tubule
 - 2-non- seminoma: Yolk sac tumor, choriocarcinoma and teratoma. “emprional carcinoma”
- teratoma: dermoid cyst mixed undifferentiated mesenchymal cells. most common non seminoma tumor
dermoid in ovary→ benign
dermoid in testis→ malignant

*leydig cells: secrete testosterone. tumor in it arise at age 5-6 years

وبكون فايع مش مخلي بنت من شره وبكون اكثر واحد عصبي -حكي الدكتور مدخلنيش-

*sertoli cells: have estrogenic effect. بيحي في الشباب بعمرنا

بيصير نعوم صوته وشعره و gynecomastia

*TC presentation is painless scrotal swelling

if painful: hemorrhage or trauma

diagnosis:

tumor marker

biopsy

CT: chest abdomen bone to detect mets

testis lymph node: paraortic
testis is an abdominal organ

scrotal is perennial organ → inguinal lymph node

diagnostic and therapeutic : radical inguinal orchiectomy

biopsy from inguinal not para aortic → tumor seeding “new pathway”

tumor markers:

1-human chorionic gonadotropin

+in female → carrying baby

+in male → carrying tumor

hcg: rise in non seminoma more than seminoma

2-α-fetoprotein (AFP): non seminoma

3-LDH: rise in seminoma

seminoma never secrete AFP

لو احي مريض AFP عالي ونا شخصت non seminoma واجي بال biopsy و ال imaging وحكي

انها pure seminoma حشخص

mixed tumor → non seminoma ولكن حتعامل معاه زي

-patient present with painless testicular mass HCG normal, AFP normal, and LDH normal → radical inguinal orchiectomy

-patient present with huge hydrocele كبرت في اسبوعين

الطبيعي ال hydrocele بدها سنين وهي بتكبر

هادي صورة تانية ممكن يجي فيها المريض ف حشك انو تيومر

-partial orchiectomy: In highly select patients, can be considered in cases in which the tumor is polar and measures 2 cm or smaller.

-seminoma : بتتميز انها chemoradio sensitive

non seminoma: just chemo sensitive

*no poor prognosis in seminoma