Gestational Trophoblastic Disease

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Introduction

Definition

- GTD is a group of disorders including pre-malignant conditions of complete & partial hydatidiform moles through to the malignant invasive mole, choriocarcinoma , placental site trophoblastic tumor and epithelioid trophoblastic tumor.
- GTD refers to pregnancy-related trophoblastic proliferative abnormalities

- ***RCOG, 2014***
- ***Williams Obst***

(FIGO) Classification

- Hydatidiform molar (molar pregnancy) - complete or partial
- Invasive mole (chorioadenoma destruens)
- Choriocarcinoma
- Placental-site trophoblastic tumor(PSTT)
- Epithelioid trophoblastic tumor(ETT)

- ***I-***Confined to corpus uteri.
- ***II-***Metastases to vagina or pelvic organs.
- ***III-***Metastases to lungs.
- ***IV-*** Distant metastases

HYDATIDIFORM MOLE (HM)

- Refers to abnormal trophoblastic proliferation & edema of chorionic villi stroma
- Rapidly proliferating trophoblasts secrete large amounts of hCG.
- Absence or presence of fetal or embryonic tissue used to classifty into
    - Complete
    - partial HM.
- Theca-lutein cysts in ovaries are commonly associated with (HM). Result from hyperstimulation of lutein elements by hCG

Complete HYDATIDIFORM MOLE (HM)

- Complete HM results from 1 or 2 sperms fertilizing a ‘blank’ ovum- without DNA.
- Hence no embryo is formed.
- 85% have diploid karyotype ie 46, XX, both xsomes of paternal origin (androgenesis)

Partial HYDATIDIFORM MOLE (HM)

- Partial HM results from 2 sperms fertilizing a normal ovum.
- karyotype is triploid in 85% cases ie 69, XXX, 69, XXY, 69 XYY.
- Some fetal tissue is present but w/ multiple malformations.
- The fetus is usually nonviable

Risk Factors

- Age <20yrs and >35yrs
- Grand multiparity
- Previous molar pregnancy
- Pretreatment HCG more than 100.000 mIU/ml
- Prior chemotherapy
- Metastasis at brain or liver.

WHO/ FIGO Prognostic scoring index

FIGO Scoring	0	1	2	4
Age (years)	<40	>40	-	-
Antecedent pregnancy	Mole	Abortion	Term	
Interval months from end of index preg to treatment	<4	4-<7	7-<13	>13
Pretreatment serum Hcg(iu/l)	<1,000	1,000-<10,000	10,000-<100,000	>100,000
Largest tumor size(+ uterus)	<3	3-<5	5+	-
Site of metastases	Lung	Spleen, kidney	GI	Brain, liver
Number of metastases	-	1-4	5-8	8+

Clinical Presentation

- Exaggerated signs of pregnancy
- Hyperemesis gravidarum
- Uterine bleeding- spotting, profuse bleeding Anemia- iron def.
- Signs Hemorrhagic shock
- No fetal activity- no FHR
- Gest. HTN (pre-eclampsia/eclampsia b4 20 wks)
- Thyrotoxicosis due to thyrotropin like effect of hCG

Diagnostic features HM

- Continuous or intermittent brown or bloody PV exam.
- D/C evident around 12wks.
- Uterine enlargement out of proportion to gestational age.
- Absence of fetal parts & fetal heart activity
- Abd. US honey-comb app
- Serum βhCG higher than expected
- Pre-clampsia/eclampsia before 20-24 wks gestation.
- Resistant hyperemesis gravidarum.

Management of HM

- Immediate evacuation either D&C or suction evacuation.
- *Suction and curettage is treatment of choice*
- Subsequent evaluation for persistent troph prolifn or malignant change via follow up serum βhCG
- Prevent pregnancy for a minimum of 6mo (contraception)
- Monitor serum hCG at least every 2 wks till negative.

Gestational Trophoblastic Neoplasia (GTN) (invasive mole, CC, PSTT, ETT)

- May follow molar preg, normal preg or abortive preg including ectopic p.
- Usually diagnosed on persistently raised serum βhCG after Hydatiform Mole
- GTN common after Complete HM (20%) but may also follow Partial HM (0.5%)
- Commonest site of metastasis is lung

Choriocarcinoma (CC)

- Extremely malignant: rapidly grows invading myometrium and blood vessels causing hemorrhage and necrosis
- Metastasis early- blood borne- mostly to lungs and vagina.
- Ovarian theca-lutein cysts involved in about 1/3 of cases

① Invasive mole

- Excessive growth of trophoblasts penetrating myometrium, may reach
- Parametrium and peritoneal cavity Less metastatic compared to CC

Placental site trophoblastic tumor (PSTT)

GTN at implantation site.

Composed of cytotrophoblasts, many prolactin-secreting cells and few gonadotroph cells. Hence HCG level may be normal.

Presentation of (Gestational Trophoblastic Neoplasia)

- Rise or plateau of serum hCG after HM
- Signs of perforation- abd pain, guarding, r.tenderness, shock Jaundice
- Blue-black papule on lower gen tract
- **Investgn**
    - Serum hCG
    - Pelvic US
    - Liver enzymes
    - CXR
    - CBC-anemia
    - CT Scan-head, chest

Treatment of (Gestational Trophoblastic Neoplasia)

- **Low-risk(score <6).**

Single-agent chemo

IM methotrexate alternating with folinic acid for 1 wk Monitor Hcg

- **High-risk(score >7)**

  EMA-CO regimen (etoposide, high-dose methotrexate and dactinomycin then cyclophosphamide and vincristine)

  EMA-CE regimen (etoposide, high-dose methotrexate and dactinomycin, then etoposide and cisplatin regimen)

THANK YOU

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