MALIGNANT TROPHOBLASTIC DISEASE

Done by: Marah Saeed
• Investigation
• Treatment
• Follow up
• Prognosis
• Placental Site Trophoblastic Tumor (PSTT)
Investigations:

- USS
- Serum hCG.
- CXR (‘cannonball’ or ‘snowstorm’ appearance). >> refer to large, well-circumscribed, round pulmonary metastases that appear, well, like cannonballs.
- Give me 2 Differential diagnosis of cannonball appearance on x Ray ?!
- CT of chest and abdomen.
- Lumbar puncture
Investigation:

• If the β-hCG level is elevated, the workup of a patient with choriocarcinoma is the same as that for patients with hydatidiform mole >> so β-hCG level is elevated, what’s next ??

• computed tomographic scan of the abdomen, pelvis, and head.

• In addition, a lumbar puncture should be performed if the computed tomographic scan of the brain is normal, because simultaneous evaluation of the β-hCG level in the cerebrospinal fluid and serum may allow detection of early cerebral metastases. Because the β-subunit does not readily cross the blood–brain barrier, a ratio of serum to cerebrospinal fluid β-hCG levels of less than 40 : 1 suggests central nervous system involvement, with secretion of the β-hCG directly into the cerebrospinal fluid.
The chemotherapy regime used is determined by a **FIGO prognostic scoring system** which is based on:
** Age of patient
** type of antecedent pregnancy
** Extent of tumour burden (hCG level, number, site, and size of tumour,
** site of metastases .
** Interval from antecedent pregnancy.
** Response to previous chemotherapy.

Federation of Gynecology and Obstetrics (FIGO)

<table>
<thead>
<tr>
<th>FIGO Score</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (y)</td>
<td>&lt;40</td>
<td>≥40</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Antecedent pregnancy</td>
<td>Mole</td>
<td>Abortion</td>
<td>Term</td>
<td>—</td>
</tr>
<tr>
<td>Interval from index pregnancy (mo)</td>
<td>&lt;4</td>
<td>4–6</td>
<td>7–12</td>
<td>&gt;12</td>
</tr>
<tr>
<td>Pretreatment hCG (mIU/mL)</td>
<td>&lt;10³</td>
<td>10³–10⁴</td>
<td>10⁴–10⁵</td>
<td>&gt;10⁵</td>
</tr>
<tr>
<td>Largest tumor size including uterus (cm)</td>
<td>3–4</td>
<td>5</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Site of metastases</td>
<td>Lung</td>
<td>Spleen, kidney</td>
<td>Gastrointestinal</td>
<td>Brain, liver</td>
</tr>
<tr>
<td>Number of metastases</td>
<td>0</td>
<td>1–4</td>
<td>5–8</td>
<td>&gt;8</td>
</tr>
<tr>
<td>Previous failed chemotherapy</td>
<td>—</td>
<td>—</td>
<td>Single drug</td>
<td>≥2 drugs</td>
</tr>
</tbody>
</table>

**Total score**
Add all individual scores for each prognostic factor
- Low risk: Score <7 is low risk
- High risk: ≥7 is high risk
Poorer prognosis is associated with

<table>
<thead>
<tr>
<th>Clinical Features of Metastatic Gestational Neoplasia With a Poor Prognosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Urinary hCG level &gt;100,000 IU/24 hr or serum hCG level &gt;40,000 IU</td>
</tr>
<tr>
<td>• Disease presents &gt;4 mo from the antecedent pregnancy</td>
</tr>
<tr>
<td>• Metastasis to the brain or liver (regardless of hCG titer or duration of disease)</td>
</tr>
<tr>
<td>• Prior failure to respond to single-agent chemotherapy</td>
</tr>
<tr>
<td>• Choriocarcinoma after a full-term delivery</td>
</tr>
</tbody>
</table>
Treatment: chemotherapy

• NONMETASTATIC AND METASTATIC GESTATIONAL TROPHOBLASTIC NEOPLASIA WITH A **GOOD PROGNOSIS.**

• METASTATIC GESTATIONAL TROPHOBLASTIC NEOPLASIA WITH A **POOR PROGNOSIS**

• **Chemotherapy**>> More likely to have earlier menopause.
NONMETASTATIC AND METASTATIC GESTATIONAL TROPHOBLASTIC NEOPLASIA WITH A GOOD PROGNOSIS (low risk)

• The chemotherapy most often employed is either methotrexate or actinomycin D.

• Methotrexate is usually given as a daily dose for 5 consecutive days or every other day for 8 days, alternating with folic acid (leucovorin). This folic acid “rescue” regimen is associated with significantly less bone marrow, gastrointestinal, and liver toxicity. (well tolerated with main side effects of mucositis and pleuritic chest pain)

• Actinomycin D is given for 5 consecutive days intravenously or every other week as a single dose.
METASTATIC GESTATIONAL TROPHOBLASTIC NEOPLASIA WITH A POOR PROGNOSIS. (high risk) >> always combination of chemotherapy.

• A regimen that has been successfully employed is the modified “Bagshawe” regimen, which is a six-drug chemotherapy regimen. The drugs used include EMA (etoposide, methotrexate, actinomycin D), CV (vincristine, cyclophosphamide) and folinic acid.

• For patients whose disease fails to improve with these agents, combinations of cisplatin and etoposide or vinblastine, with or without bleomycin, have been used.

• Small increased risk of miscarriage and stillbirth, but no increase in fetal abnormalities in subsequent pregnancy.
metastasis ??

• In patients with disease metastatic to the brain or liver, radiation is often employed to these areas in conjunction with chemotherapy.

• The whole brain tolerates an initial dose of 2000 to 3000 centigray (cGy), with fractions of approximately 200 cGy per day. Together with systemic chemotherapy, a 50% cure rate can be expected.

• Liver metastases are usually treated with about 2000 cGy.

• Surgery plays a role in selected cases, especially hysterectomy and pulmonary resection for chemotherapy-resistant disease.
Follow up:

• All patients should have **weekly** β-hCG level measurements until three normal levels have been measured.

• For patients with GTN who have a **good prognosis, monthly** measurements should be **done** until **12 normal levels** have been recorded.
Patients with GTN who have a **poor prognosis** should have **monthly** levels until 24 normal measurements have been recorded.

Patients should use **effective contraception during follow-up**, following which they may attempt pregnancy.

If a patient’s levels become normal and later are found to be rising, a **second metastatic workup** must be undertaken before the initiation of secondary therapy.
Prognosis:

• About **95-100%** of patients with GTN who have a **good prognosis** are cured of their disease.

• Patients with **poor prognostic features** can be expected to be cured in only **50-70%** of cases.

• The majority of the patients who die have brain or liver metastases.
Placental Site Trophoblastic Tumor:

• is an uncommon but important variant of GTD that consists predominantly of an intermediate trophoblast and a few syncytial elements. These tumors produce small amounts of hCG and human placental lactogen relative to their mass, tend to remain confined to the uterus, and metastasize late in their course. In contrast to other trophoblastic tumors, placental site tumors are relatively insensitive to chemotherapy, so surgical resection of disease is important.