# Video-laparoscopy in the Management of Ectopic Pregnancy

Mounir M. Fawzy El-Hao
Professor of Ob/Gyn
Ain Shams University
Cairo – Egypt

# Ectopic Pregnancy

Why not a prospective study in EP?

- Shocked patients will need immediate interference
- Tendency towards conservative surgery
- The need to develop experience with the laparoscope

# Diagnosis

- Medical history
- Physical examination
- Abdominal examination
- Vaginal digital examination
- Speculum examination
- Transvaginal US
- Serum β-hCG

# Diagnosis

- Transvaginal US (mandatory)
- Serum β-hCG (mandatory)
- Abdominal examination (helpful)
- Speculum examination (vaginal bleeding)

# Diagnosis

Vaginal digital examination for patients with suspected EP is unnecessary as it could potentially cause tubal rupture

*Mol et al., 1999 Amsterdam*

# Diagnosis

- Inability to detect a sac when levels of β-hCG
- are as low as 1.025 IU/L indicates either a miscarriage or an EP
- A repeat test will confirm either diagnosis.

# Diagnosis

- Suggestive picture by TVS:
  - Pelvic fluid
  - Ring like structure in the fallopian tube
  - Absent intrauterine sac

# Definitions

- Persistent EP is defined as a postoperative elevation of hCG or detection of persistent trophoblastic tissue in the ipsilateral tube

*Di Marchi et al., 1987*

# Definitions

- A day-1 postoperative hCG value of >50% is predictive of persistent EP

*Spandorfer et al., 1997*

# Definitions

- Continued growth of trophoblastic tissue resulting in additional surgical or medical treatment

*Seifer et al., 1993*

- Persistent EP after linear salpingostomy has been reported to be 4% to 20% of cases

*Di Marchi et al., 1987; Thorton et al., 1991*

- Tubal patency after laparoscopic salpingostomy was sent at 80%

*Vernesh et al., 1987; Lundorff et al., 1991*

# Medical

- Rate of spontaneous resolution of EP is as high as 77%, the efficacy of medical treatment may often be biased toward overestimation

*Korhonen et al., 1996*

# Medical

- Combination of mifepristone (action 48h optimum) and methotrexate (action 3-7days optimum) decreased the risk of failure of medical treatment of EP

*Perdu et al., 1998*

# Medical

- Transvaginal injection of hyperosmolar glucose (3 ml, 33% dextrose) may be an effective conservative treatment for intact ectopic pregnancies

*Strohmer et al., 1988*

# Medical

- Universal agreement that methotrexate can be used when hCG <2000 IU/ml and sac <2 cm

# Medical

- Systemic methotrexate therapy consistently had a more negative impact on patient's health quality of life than did laparoscopic salpingostomy

*Nieuwkerek, 1998*

# Medical

- Methotrexate is given to a selected group of patients, where as surgical treatment is more universal for all patients with EP

*Yao & Tulandi, 1997*

- Patients with 6 weeks (amenorrhea) pregnancy in the tubes can be successfully treated with MTX single dose. For patients with longer amenorrhea, the therapy remains alternative

*Gobellis, 1998*

# Methotrexate

- Four doses: administered IM (1 mg/kg, days 0, 2, 4 & 6) alternated with four doses of folinic orally (0.1 mg/kg, days 1, 3, 5 & 7)

*Nieuwkerk et al., 1998*

- Single dose: 50 mg/m$^2$ IM may be repeated after one week if β-hCG did not drop by >15% between day 4 & day 7

*Yao & Tulandi, 1997*

# Surgery

- There is no difference in the reproductive outcome after treatment of EP by laparotomy or laparoscopy

*Yao & Tulandi, 1997*

# Surgery

- The incidence of tubal rupture is 32% if the initial serum β-hCG is >10,000 IU/ml

*Kao & Kock, 1992*

# Surgery

- Against conservative tubal surgery in EP is persistent trophoblastic activity, the major argument with it is increasing chance of IUP (compared to salpingectomy)

*Yao & Tulandi, 1997*

# Frequency of Risk Factors in Choice of Surgery (Conservative versus Radical)

| Variable | Conservative Surgery | Radical Surgery |
|---|---|---|
| Age in years (Range) | 28.3 (21-34) | 36.1 (29- 48) |
| Gravidity (Range) | 1.6 (1-4) | 3 (1-5) |
| Previous infertility % | 35 | 18 |
| PID % | 10 | 5 |
| Past IUD use % | 8 | 5 |
| tubal adhesions % | 19 | 24 |
| abnormal contralateral tube % | 8 | 6 |
| previous ectopic | 1 | 1 |
| No risk factors % | 15 | 20 |

The only case of heterotropic pregnancy that also had a previous ectopic pregnancy in the contralateral tube and then got pregnant with an outcome of a healthy baby

# Operative Details of 47 Cases of Ectopic Pregnancy

| | Group I (Salpingostomy) | Group II (MTX + Saplingostomy) | Group III (Salpingectomy) |
|---|---|---|---|
| No of patients | 7 | 15 | 24 |
| Time of surgery (min) | 48 | 37 | 35 |
| Site of ectopic: | | | |
| Ampulla | 7 | 15 | 24 |
| Isthmus | 0 | 0 | 1 |
| Ovary* | 0 | 0 | 1 |
| Adhesions | 1 | 3 | 6 |
| Ruptured tube | 0 | 0 | 14 |
| Estimated blood loss (ml) | 110 | 96 | 176 |

Total number of patients is 47 from which 1 case was extraction by expression.

*Salpingo-oophorectomy

# Postoperative Complications & Recovery

| | Salpingostomy | Saplingostomy + MTX | Salpingectomy |
|---|---|---|---|
| Retained trophoblast | 1 | 0 | 0 |
| Pelvic collection | 0 | 0 | 1 |
| UTI | 0 | 1 | 0 |
| Transient ileus | 0 | 0 | 0 |
| Wound infection | 2 | 1 | 2 |
| Hospital stay | 1 | 1 | 1 |
| Return to work/day | 10 | 12 | 14 |

# Operative Laparoscopy in 47 Cases of Ectopic Pregnancy from November 1995 to December 1999

| | Term pregnancy | Miscarriage | Repeat ectopic |
|---|---|---|---|
| Group 1: Salpingostomy (7 cases) | 4 | 0 | 0 |
| Group 2: Salpingectomy (24 cases) | 3 | 1 | 1 |
| Group 3: Salpingostomy + MTX 45 cases) | 8 | 1 | 0 |

7 cases were defaulters and one case, that was extracted by expression, is now pregnant at 30 weeks

# Conclusions

- Operative Laparoscopy can be used successfully to treat ectopic pregnancy.
- Routine use of single preoperative MTX may be useful in controlling bleeding prior to and postoperative.
- Fertility after salpingostomy with or without MTX seems to be satisfactory.
- Operative laparoscopy has the advantage of short operative time, fast recovery and low cost.

# Thank You