Video-laparoscopy in the Management of Ectopic Pregnancy

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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