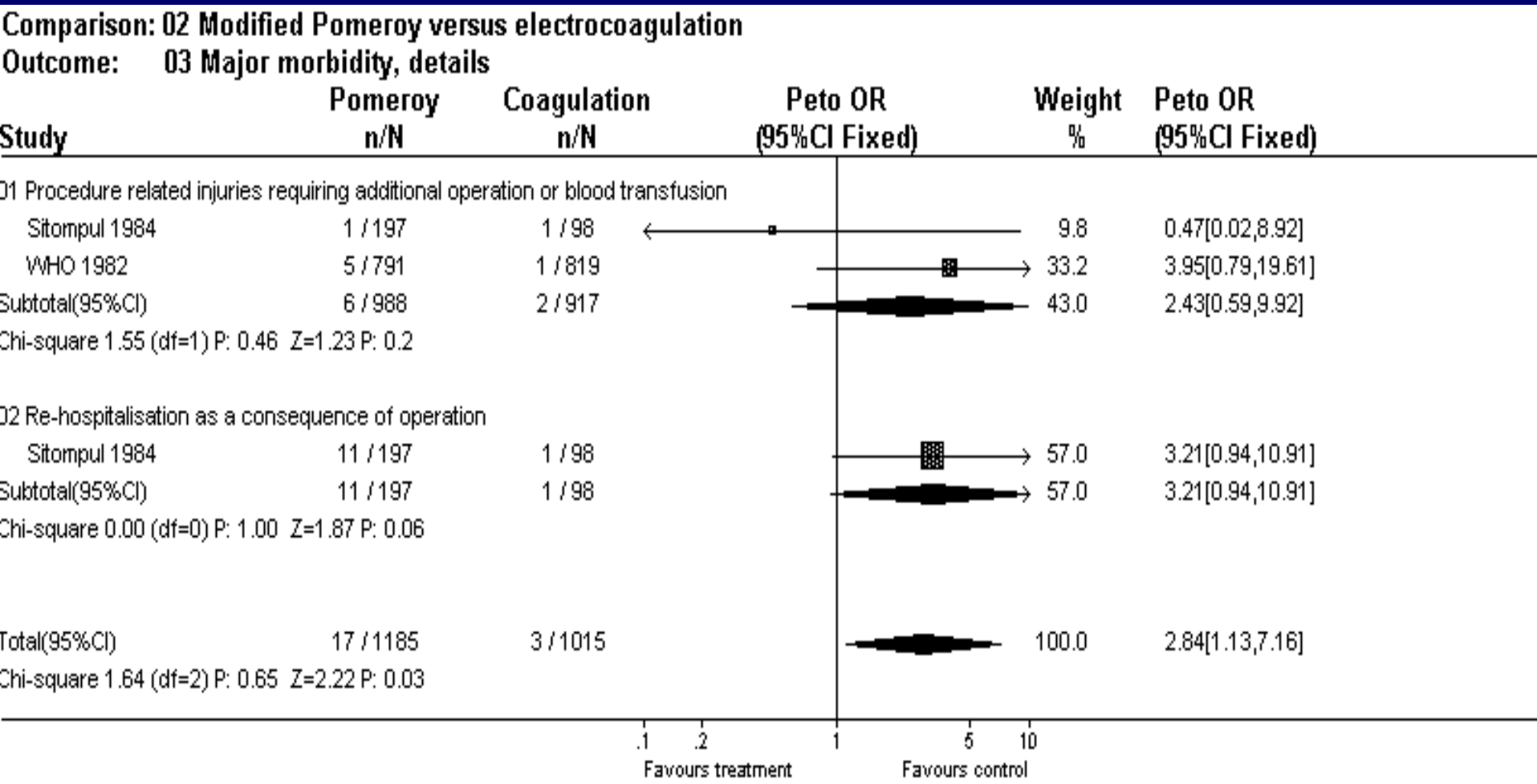
Tubal ring vs clip

- No differences were found with regard to:
  - pregnancy rates
  - technical difficulties
  - postoperative complaints
  - menstrual irregularities

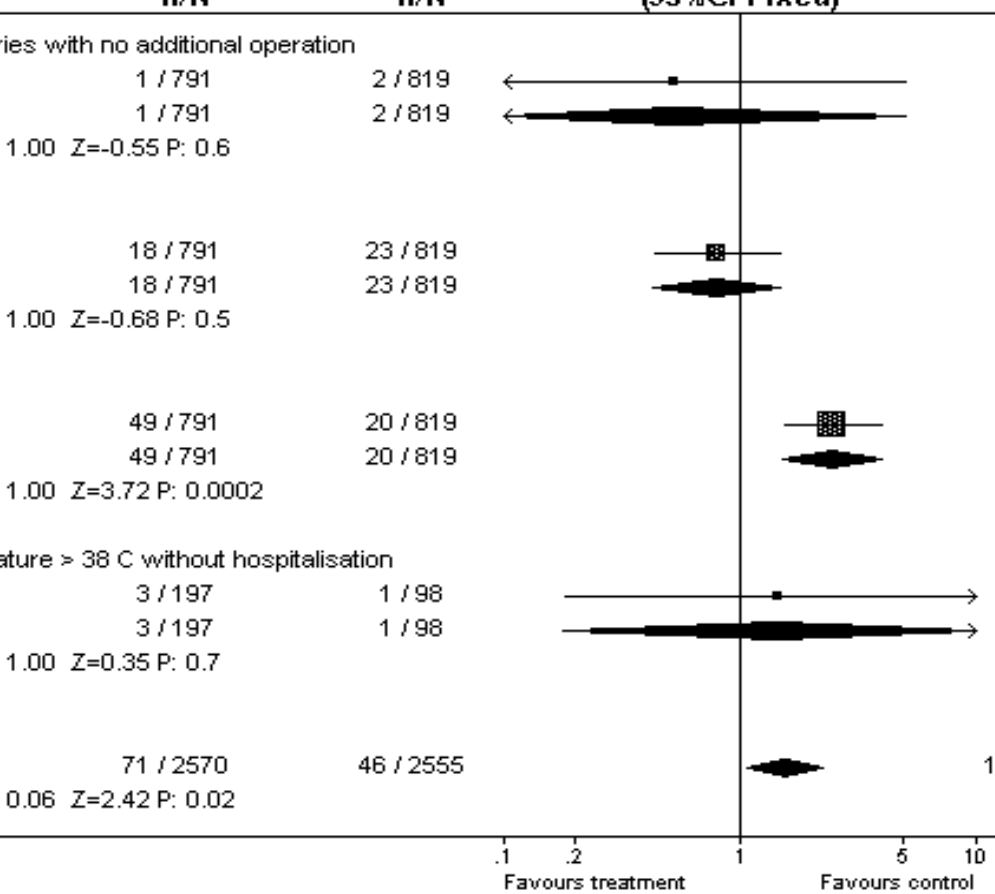
Pomeroy vs electrocoagulation: major morbidity



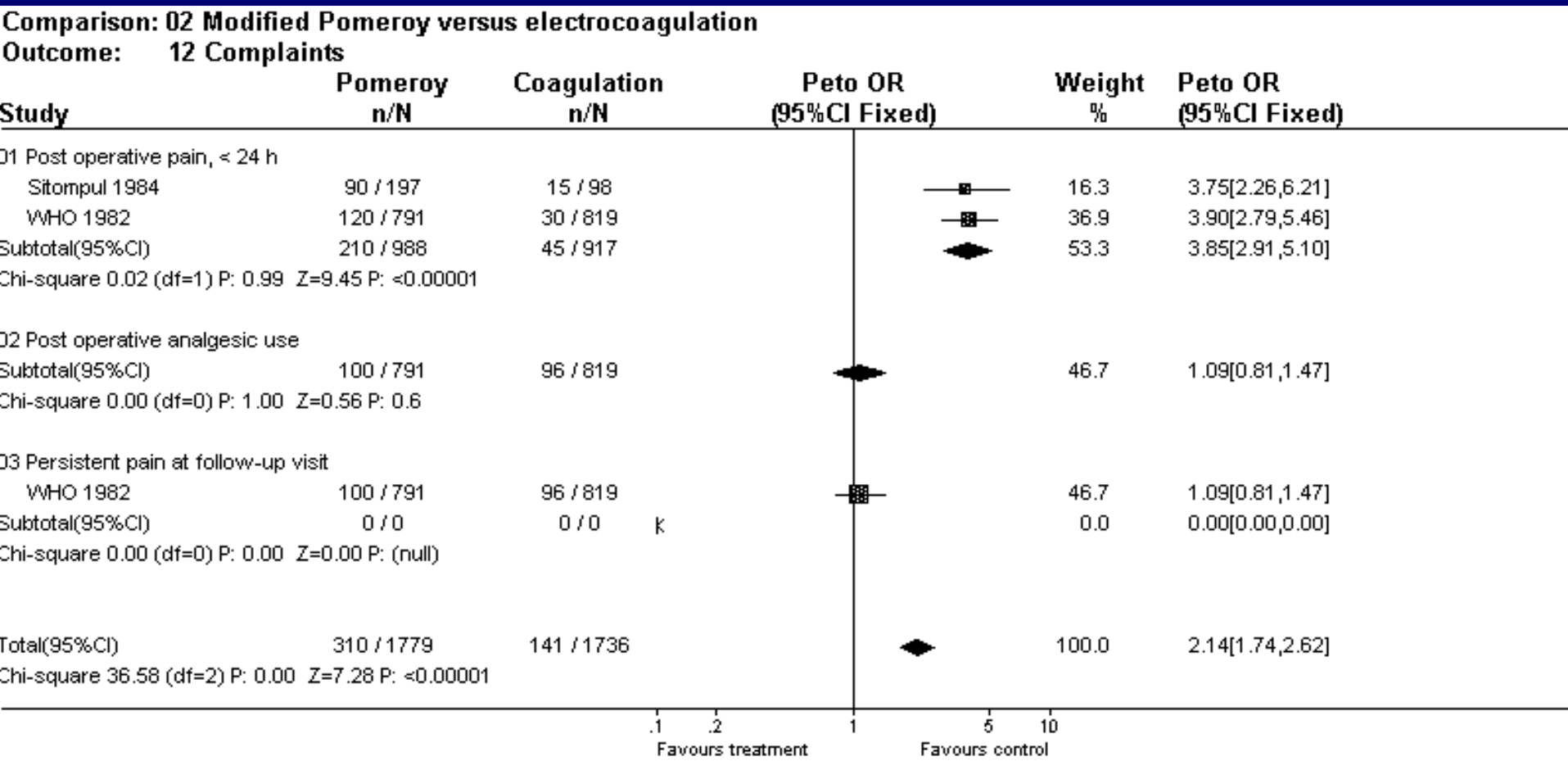
Pomeroy vs electrocoagulation: minor morbidity

Comparison: 02 Modified Pomeroy versus electrocoagulation
Outcome: 05 Minor morbidity, details

Study	Pomeroy n/N	Coagulation n/N	Peto OR (95%CI Fixed)	Weight %	Peto OR (95%CI Fixed)
01 Procedure related injuries with no additional operation					
WHO 1982	1 / 791	2 / 819		2.7	0.53[0.06,5.11]
Subtotal(95%CI)	1 / 791	2 / 819		2.7	0.53[0.06,5.11]
Chi-square 0.00 (df=0) P: 1.00 Z=-0.55 P: 0.6					
02 Urogenital infections					
WHO 1982	18 / 791	23 / 819		35.5	0.81[0.43,1.50]
Subtotal(95%CI)	18 / 791	23 / 819		35.5	0.81[0.43,1.50]
Chi-square 0.00 (df=0) P: 1.00 Z=-0.68 P: 0.5					
03 Wound infection					
WHO 1982	49 / 791	20 / 819		58.7	2.49[1.54,4.04]
Subtotal(95%CI)	49 / 791	20 / 819		58.7	2.49[1.54,4.04]
Chi-square 0.00 (df=0) P: 1.00 Z=3.72 P: 0.0002					
04 Post operative temperature > 38 C without hospitalisation					
Sitompul 1984	3 / 197	1 / 98		3.1	1.45[0.18,11.77]
Subtotal(95%CI)	3 / 197	1 / 98		3.1	1.45[0.18,11.77]
Chi-square 0.00 (df=0) P: 1.00 Z=0.35 P: 0.7					
Total(95%CI)	71 / 2570	46 / 2555		100.0	1.58[1.09,2.28]
Chi-square 8.85 (df=3) P: 0.06 Z=2.42 P: 0.02					



Pomeroy vs electrocoagulation: postoperative pain



Tubal ring vs electrocoagulation: postoperative pain

Comparison: 03 Tubal ring versus electrocoagulation
Outcome: 12 Complaints

Study	Ring n/N	Coagulation n/N	Peto OR (95%CI Fixed)	Weight %	Peto OR (95%CI Fixed)
01 Post operative pain, < 24 h					
Aranda 1976	47 / 147	29 / 151		26.7	1.95[1.16,3.29]
Koetsawang 1978	78 / 148	24 / 150		31.6	5.08[3.15,8.19]
Subtotal(95%CI)	125 / 295	53 / 301		58.4	3.28[2.31,4.66]
Chi-square 7.03 (df=1) P: 0.03 Z=6.62 P: <0.00001					
02 Post operative analgesic use					
Aranda 1976	16 / 147	7 / 151		10.0	2.40[1.03,5.61]
Subtotal(95%CI)	16 / 147	7 / 151		10.0	2.40[1.03,5.61]
Chi-square 0.00 (df=0) P: 1.00 Z=2.02 P: 0.04					
03 Persistent pain at follow-up visit					
Aranda 1976	4 / 146	2 / 150		2.8	2.03[0.40,10.18]
Koetsawang 1978	45 / 148	41 / 150		28.9	1.16[0.70,1.91]
Subtotal(95%CI)	49 / 294	43 / 300		31.6	1.22[0.76,1.97]
Chi-square 0.42 (df=1) P: 0.81 Z=0.81 P: 0.4					
Total(95%CI)	190 / 736	103 / 752		100.0	2.32[1.78,3.04]
Chi-square 18.13 (df=4) P: 0.00 Z=6.15 P: <0.00001					

Tubal ring vs electrocoagulation

- No statistically significant differences:
  - major, minor morbidity
  - efficacy
  - technical failures

Pomeroy vs clip (n=200)

- Similar
  - minor morbidity
  - menstrual irregularities
  - Pomeroy:1 pregnancy

Filshie vs Hulka n=200

- Similar:
  - major, minor complications

Risk of pregnancy after tubal sterilisation

- cohort: 10 685 women
- follow-up: 8-14 years
- laparoscopic:
  - unipolar/bipolar coagulation
  - silicone ring
  - spring clip
- laparotomy
  - partial/total salpingectomy
    - Peterson 1995

Risk of pregnancy after tubal sterilisation

- cumulative 10-years probability:
  - overall: 18.5/1000
  - clip: 36.5/1000
  - unipolar coagulation /pp partial salpingectomy: 7.5/1000

- Peterson 1995

Risk of pregnancy after tubal sterilisation

- 18-27 years:
  - unipolar coagulation: 3.7/1000
  - clip: 52.1/1000
  - bipolar: 54.3/1000
- 34-44 years:
  - unipolar coagulation: 1.8/1000
  - clip: 18.2/1000

Risk of ectopic pregnancy

- 10 year cumulative probability/1000:

Bipolar coagulation	17.1 (9.8-24.4)
Unipolar coagulation	1.8 (0.0-5.2)
Silicone ring	7.3 (1.6-12.9)
Spring-clip	8.5 (1.0-16.0)
Interval partial salpingectomy	7.7 (0.0-15.9)
Postpartum partial salpingectomy	1.5 (0.0-3.6)
All methods	*7.3 (5.0-9.6)*

  - Peterson 1997

Poststerilisation regret

- 11 232 women, 18-44 years
- cumulative probability of regret after 14 years:
- Age groups:
  - 18-30 : 20.3%
  - > 30: 5.9%

- Hillis 1999

Chemical sterilisation

- **Quinacrine**
  - 1920s developed as anti-malarial drug
  - 1970s intrauterine use in 1100 women, up to 50 000 women treated until 1992

QUINACRINE

- three instillations to achieve adequate efficacy
- CNS excitations
- ? 3 deaths
- ? Carcinogenic

Conclusions

- Laparoscopy:
  - seems to be associated with less minor morbidity
  - less postoperative discomfort
  - minimal or no scarring
- Laparoscopy:
  - shorter operation time
- Culdoscopy
  - no obvious advantages

Conclusions

- Major morbidity is rare with any method
- Failure rates low in RCTs with short follow-up (up to 2 years)
- Higher failure rates
  - longer follow-up (up to 14 years)
  - young age at sterilisation (<30 years)
  - inexperienced surgeons

Conclusions

- Risk of ectopic pregnancy is increased especially after bipolar coagulation
- No evidence of menstrual abnormalities are evident after tubal sterilisation
- Higher incidence of regret is observed after sterilisation at young age (<30 years)