

FERTILITY AFTER TUBAL PREGNANCY

**A SYSTEMATIC REVIEW OF THE
LITERATURE**

PRESENTED BY

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PLAN

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I. BACKGROUND

A. DEFINITIONS

→ ECTOPIC PREGNANCY

→ INFERTILITY

→ FERTILITY

B. EPIDEMIOLOGY

i) The incidence

- Worldwide 1.6 – 2% of all pregnancies**
- Industrialised countries: rate x2 or x3**
- Why increasing**
 - PID**
 - DG**
- In Cameroon**
 - Kouam et al (1996)**
 - Leke et al (2004)**

ii) The mortality rate

- In the past (72-90% in 1880)**
- Now at 0.14% in 1990 in the industrialised world**
- Leke et al obtained 0.94% in Cameroon**

iii) Age group of 25 – 30 years in Cameroon mostly affected (6)

iv) Risk factors

→ PID

→ Previous pelvic surgery

→ Tumors

→ Uterine anomalies

→ the use of assisted reproductive technology etc.

C. MANAGEMENT

i) Diagnosis

- High index of suspicion
- Sensitive serum BCGH assays
- Progesterone assays
- Transvaginal sonography
- Diagnostic laparoscopy

ii) The aim of treatment

- The relief of the patient of all the dangers surrounding the condition.
- To preserve the fertility outcome by preserving as much as possible the tubal function.
- To minimise post treatment complication.

iii) Treatment modalities at our disposal

→ Expectant («wait and see »)

→ Medical

→ Conservative surgery

→ Radical surgery

iv) Complications

- Either by the condition itself or by its method of treatment.
- Rupture
- haemorrhage and shock.
- Death
- Surgical complications
 - anaesthetic
 - surgical
- Conservative treatment – persistent trophoblast and risk of repeat EP

II. OBJECTIVES

- To carry out a review of literature on the outcome of fertility after various methods of treatment of EP.
- To compare the outcome of fertility in the various methods of treatment.
- To evaluate tubal patency in post ectopic pregnancy cases managed conservatively.

III. METHODS

- i) Study sources
 - Electronic databases
 - School library
 - Some tutors.

- ii) Selection of articles
 - Study design
 - Participants
 - Type of intervention
 - Outcome measure

iii) Data analysis

Data extracted from the literature and presented in comparative tables:

IV. RESULTS:

TABLE 1 : BASELINE CHARACTERISTICS OF PUBLICATIONS INCLUDED FOR THE REVIEW (FULL TEXT ARTICLES)

	Reference	Country	Study Design	Period	Duration	Sample Size
1	Albrecht Giuliani	Austria	Retrospecti ve cohort study	Feb89- Sep96	16-108 months (mean: 64)	183
2	Anne Ego	France	Propective follow-uP	Apr94- Mar97	36 months	328
3	Hervé Fernandez	France	Retrospecti ve cohort study	Jan85 –Jul94	36-162 months (mean: 73)	340 (213, 127)
4	Nannie Bangsgaard	Denmark	Retrospecti ve cohort study	Jan92 -Jan99	18 months	276

TABLE 2 : BASELINE CHARACTERISTICS OF PUBLICATIONS INCLUDED FOR THE REVIEW (FULL TEXT ARTICLES)

	Referenc e	Intervention	Setting	Outcome Measure	Sampl e Size	Loss to follow -up
1	Albrecht Giulianni	Questionnaire (glucose 50% instillation)	University hospital	-Pregnancy rate -Tubal recurrence rate	183	19 (11%)
2	Anne Ego	Interviews by telephone	Register. Urban area	Cumulative pregnancy rate	328	95 (14%)
3	Hervé Fernandez	Salpingectomy	Tertiary care university hospital	-IUP -LCB -Recurrent EP	340(21 3,127)	47 (13.8 %)
4	Nannie Bangsgaa rd	Questionnaire Post surgery	Clinical university setting	IUP Recurred EP	276	31

TABLE 3a : BASELINE CHARACTERISTICS OF PUBLICATIONS INCLUDED FOR THE REVIEW (ABSTRACT)

	Reference	Country	Study Design	Period	Duration	Sample Size
1	Bouyer J	France	Population based	1992 - 1996	4 years	476
2	Dela Cruz A.	Canada	Retrospective study		3 years	90
3	Kouam L	Cameroon	Retrospective	1984 - 1993	9 yrs	98
4	Lundroff P.	Sweden	Randomised trial	May87- Jun89	26 months	105
5	Mika Rantala(1997)	Finland	Retrospective study	Jan90 – Aug93	32 months	30

TABLE 3b : BASELINE CHARACTERISTICS OF PUBLICATIONS INCLUDED FOR THE REVIEW (ABSTRACTS)

	Referen ce	Country	Study design	Period	Duration	Sample size
6	Mol B.W.	Netherland s	Retrospective cohort	Jan90 – Aug93	32 months	135
7	Ory S.J.	USA	Retrospective cohort		3 -12.5 years	88
8	Pouly J.L.	France	Retrospective Non- comparative	Jul74 – Dec87	162 months	223
9	Rashid M.	Saudi Arabia	Retrospective study	Jan90 – Dec95	60 months	137
10	Sultana C.J.	Ohio,USA	Retrospective analysis		9 years	126
11	T. Suzuki	Japan	Retrospective study	Jan85 – Dec95	10 years	38

TABLE 4a : BASELINE CHARACTERISTICS OF PUBLICATIONS INCLUDED FOR THE REVIEW

	Reference	Intervention	Setting	Outcome Measure	Sample Size
1	Bouyer J	-Surgery -Medical treatment	Register urban area	-Fertility -Recurrence EP	476
2	Dela Cruz A.	-Radical surgery -Conservative surgery	Hospital records	-Live births -Miscarriage -EP	90
3	Kouam L.	Surgery	University hospital	-IUP -EP	98
4	Lundroff P.	Salpingotomy	Clinical university center	Fertility	105
5	Mika Rantala(199 7)	-Expectant -HSG -Questionnaire	University hospital	-Tubal patency -Full term pregnancy -EP	30

TABLE 4b : BASELINE CHARACTERISTICS OF PUBLICATIONS INCLUDED FOR THE REVIEW

	Referenc e	Intervention	Setting	Outcome Measure	Sample Size
6	Mol B.W.	Radical(79) Conservative(5 6)	University hospital	-Spontaneous IUP -Repeat EP	135
7	Ory S.J.	-Conservative surgery-Radical surgery	Clinic based	-Live births -EP	88
8	Pouly J.L.	Conservative laparoscopy	-University hospital,clinic	Fertility	223
9	Rashid M.	Surgery -conservative -radical	Hospital records	-Term pregnancy -Repeat ectopic	137
10	Sultana C.J.	Surgery	Tertiary hospital	-Live births -Pregnancy rates	126
11	T. Suzuki	Systemic methotroxate	Clinical environment	Pregnancies	38

TABLE 5a : OUTCOME MEASURE: FERTILITY OUTCOME

Reference		No of cases	IUP	Cumulative spontaneous preg. rate	Live births	Miscarriage	Induced Ab.
Nannie	Conservative	208 (75%)	161	89%	88	36	5
	Radical	68 (25%)	39	66%	21	9	1
Herve Fernandez	Laparoscopy radical	213 (62.6%)	82.1%		50%		
	Laparotomy radical	127 (37.4%)			37%		
Cohort	Laparoscopy	122 (67%)	77 (63.1%)		61 (50%)		
	Radical	62 (33%)	27 (43.5%)		23 (37%)		
Albrecht	Cohort of	124	91 (73%)		87 (70%)	3	
Anne Ego		328	182 (84.7%)	66%	31%	27	

TABLE 5b : OUTCOME MEASURE : FERTILITY OUTCOME

Reference		No of cases	EP repeat	Mean time to conception	Conception rate at	
					12 mths	24 mths
Nannie	Conservative	208 (75%)	28			
	Radical	68 (25%)	8			
Herve Fernandez	Laparoscopy radical	213 (62.6%)	10.6%	11 mths		
	Laparotomy radical	127 (37.4%)	9.6%	17.2 mths		
Cohort	Laparoscopy	122 (67%)	10.6%	11 mths	70.9%	86%
	Radical	62 (33%)	9.6%	17.2 mths	58.8%	78.7%
Albrecht	Cohort of	124	15			
Anne Ego		328	22 (10.2%)	5.2 mths	56%	67%

TABLE 6 : OUTCOME MEASURE: FERTILITY OUTCOME

Reference		No of cases	IUP	EP repeat
Pouly JL	Laparoscopy	223	67%	27 (12%)
Mika Rantala	Expectant	30	88%	1 (4.2%)
T. Suzuki	Mix	38	17 (50%)	8 (32%)
Kouam L		98	16 (16.3%)	12 (12.2%)

TABLE 7 : OUTCOME MEASURE: TUBAL PATENCY

Referen ce	No of cases	Intervention	Ipsilat eral obstru ction	Ipsilateral tubal patency	Bilate ral tubal obstr uction	IUP rate	Repeat EP
Albrecht	39	- Hyperosmolar glucose 50% instillation - HSG		27 (69%)	5		
Mika Rantala	30	- Expectant - HSG	2 (8.4%)	28 (93%)	1 (4.2%)	21 (88%)	1 (4.2%)
T. Suzuki	38	Methotrexate injection				17 (50%)	8 (32%)

TABLE 8 : OUTCOME MEASURE: TUBAL PATENCY

Reference	No of cases	Live births	Abortions in ipsilateral patency	Median interval for IUP	Median interval for EP
Albrecht	39	20 (78%)	1	11 months (range 2 – 78)	24 months (range 2 - 88)
Mika Rantala	30				
T. Suzuki	38				

- Long term risk of recurrent EP in tubes treated with hyperosmolar glucose was 8%.
- Reproductive outcome of patients treated with instillation of hyperosmolar glucose for early unruptured tubal pregnancy appears favourable and comparable with treatment of other tube sparing modalities.
- Expectant management also yields a good long-term fertility outcome. The rate of repeat EP is low.
- The use of methotrexate injection is very useful from the viewpoint of tubal function preserved after the treatment. The number of IUP via affected tube is not small.
- The differences in the results were not statistically significant.

V. CONCLUSION

- General fertility: the differences are not statistically significant.
- Non causal effect between method of treatment and fertility.
- Data lacking in order to be more conclusive.
- The need for a clearly defined indication for a method of treatment for each case.