

MANAGEMENT OF GENITAL TUBERCULOSIS

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EPIDEMIOLOGY

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Global Prevalence

- ◆ 1995: 22 million cases
- ◆ 1997: 1.86 billion cases

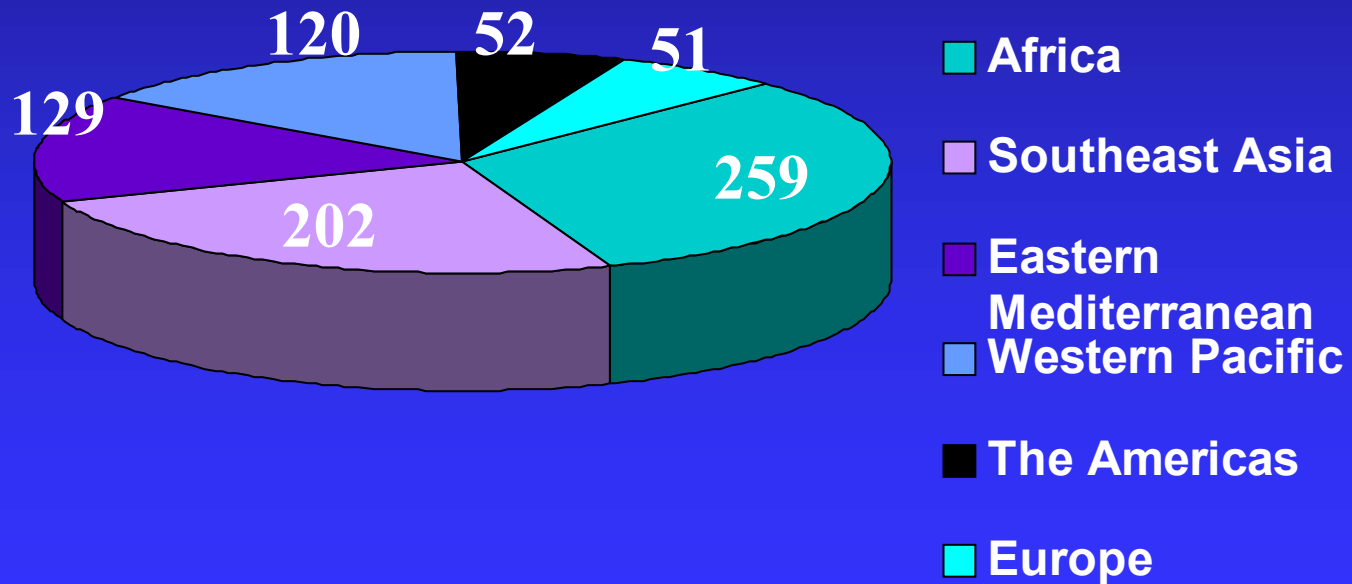
Causes of Increased Prevalence

- ◆ Emergence of resistant strains
- ◆ HIV

EPIDEMIOLOGY

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Incidence of TB in 1997 by WHO Regions
(rate/100 000 persons)



PATHOGENESIS



80% → 20%

Renal
Bone
CNS
Genital



Tubes: 50-100%
Uterus: 27-79%
Ovaries: 9-11%

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OBJECTIVE

- Discuss the diagnostic and treatment issues in female genital tuberculosis
- Describe the factors that improve the fertility rate in women with genital tuberculosis

METHODS

- Computerized search in Medline
- 14 original articles are analyzed

RESULTS: *Incidence*

Incidence of genital TB in gynecologic in-patients and infertile women

Study	Country	Prevalence Pulmonary TB *	Incidence Genital TB	
			Gyn in-patients	Infertile women
Chattopadhyay	Saudi Arabia	73	0.45%	4.2%
Saracoglu	Turkey	66	0.03%	
Falk	Sweden	5	0.002%	
Firuzza	India	505	2.3%	39%
Soussis	United Kingdom	19		0.4%
Figueroa	Mexico	61		0.59%
Gini	Nigeria	383		0.2%
Klein	United States	6		0.7%

* per 100 000 inhabitants

RESULTS: *Age*

Mean age of patients with genital tuberculosis

<i>Study</i>	<i>Mean Age (years)</i>
<i>Marcus (1994)</i>	38.5 +/- 3.5
<i>Figueroa (1996)</i>	32.0 +/- 6.1
<i>Soussis (1998)</i>	33.0 +/- 4.0
<i>Aka (1997)</i>	25.0 +/- 6.5

RESULTS: *Symptoms*

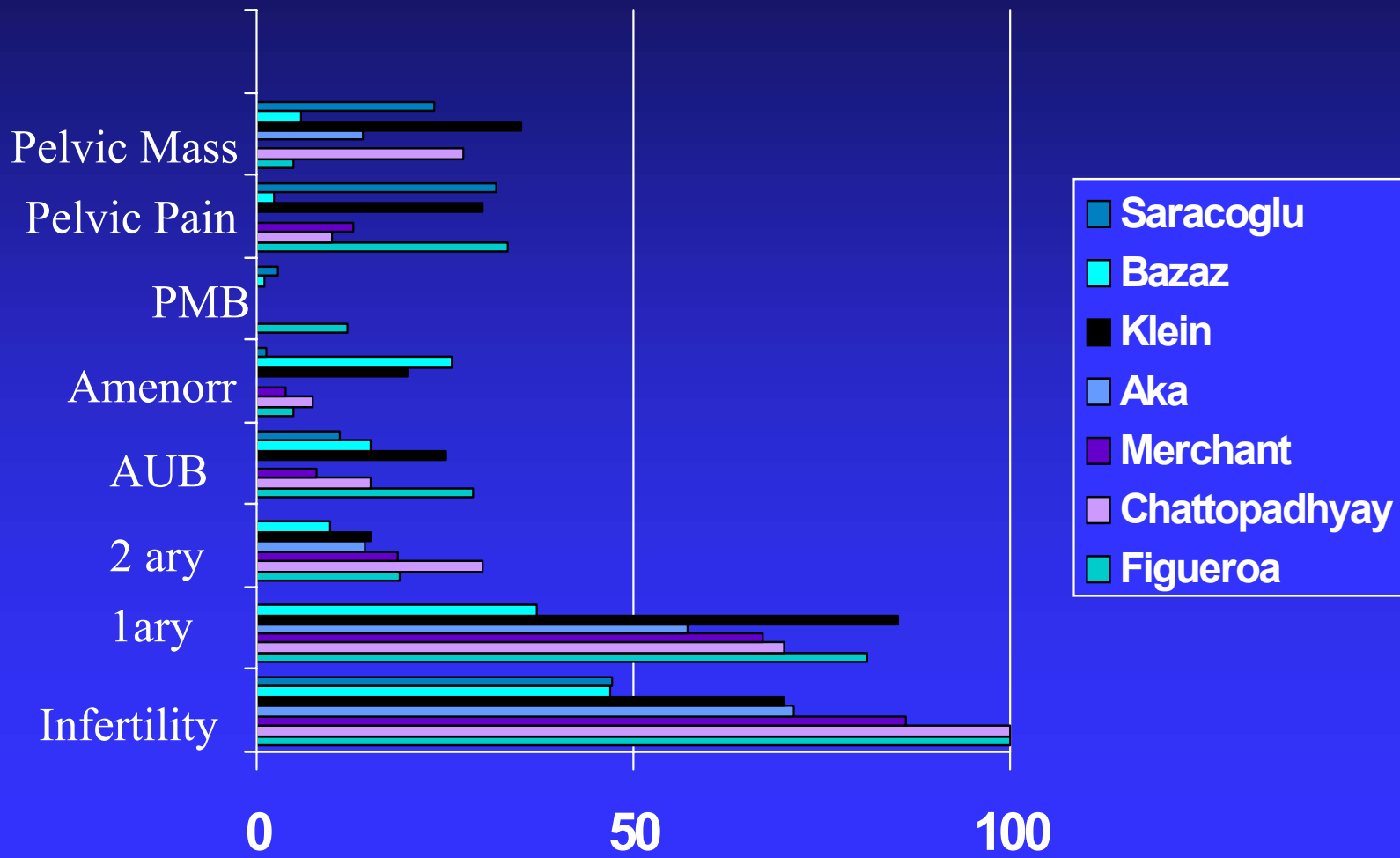
Presenting symptoms and signs in patients with genital tuberculosis.

Study	Asymp- tomatic	Symptoms (percentage)						
		Infertility			AUB*	Amenorr	PMB**	Pelvic Pain
		Total	1 ^{ary}	2 ^{ary}				
Figueroa	33.3	100	81	19	28.6	4.8	12	33.3
Merchant		86.1	67.3	18.8	7.9	3.9		12.9
Bazaz	33	47	37.2	9.8	15	26	1	2.4
Chattopadhyay		100	70	30	15	7.5		10
Klein		70	85	15	25	20		30
Saracoglu		47.2			11.1	1.4	2.8	31.9
Aka	71.4	71.4	57.1	14.3	71.4			
Soussis		100	77	23				
Marcus	80	100	90	10				
Parikh		100			66	5		
Gurgan		100						
Gini		100	60	40	0			
Falk	11.2	12.8			41.2			24.6
Nogales		100	94	6			11	

* PMB: Postmenopausal bleeding

** AUB: Abnormal uterine bleeding

Symptoms and signs in patients with genital tuberculosis



DIAGNOSTIC TECHNIQUES

MANTOUX TEST (PPD)

- ◆ 62-100%

CHEST X-RAY

- ◆ Positive: 10-66%
- ◆ Normal x-ray does not rule out diagnosis

DIRECT SMEAR (*GENITAL TRACT*)

- ◆ AFB stain
- ◆ 10^5 organisms/ml

CULTURES (*GENITAL TRACT*)

- ◆ Positive: 30%
- ◆ 10-100 organisms/sample
- ◆ Repeated samples
- ◆ Requires 40 days

HYSTEOSALPINGO-GRAPHY

- ◆ Positive: 60-100%

DIAGNOSTIC TECHNIQUES

HISTOLOGY

- Positive: 50-100%
- Genital tract structures
- Optimal time for sampling endometrium
- Granulomas

LAPAROSCOPY

- Positive: 90-100%
- Deformity of salpinges
- Hydrosalpinx
- Tubal nodes
- Tubal blockage
- Pelvic adhesions
- Frozen pelvis

DIAGNOSTIC TECHNIQUES

- HYSTEROSCOPY
- VAGINAL ULTRASOUND
- POLYMERASE CHAIN REACTION

TREATMENT

MEDICAL

- Short courses effective
- Increased resistance from 2.5% to 8.8% after 1976

SURGICAL

- Indications
 - ◆ persistent or recurrent pelvic mass following 6 month chemotherapy
 - ◆ persistent or recurrent disease following medical treatment
 - ◆ persistent or recurrent symptoms
 - ◆ presence of nonhealing fistulas
 - ◆ multiple drug-resistant disease

TREATMENT

INFERTILITY

- Tubal microsurgery
 - ◆ 7.3% successful: disease stage > II
 - ◆ 27% success if disease stage I-II
 - ◆ overall success: 22%
 - ◆ 11.8% more than one term pregnancy

- IVF-ET

TREATMENT

INFERTILITY

Results of IVF-ET in patients with genital TB

	Figueroa	Parikh	Marcus	Soussis	Gurgan	
					TB	Non TB
No. Patients	5	30	10	13	24	274
Preg. R/C *	2 (40%)	5 (16%)	6 (60%)	6 (28.6%)	4 (9.1%)	78 (21.3%)
Imp. R/E **	NM ⁺	16.6%	22.2%	37.5%	5.8%	8.6 ^{NS}
Delivery	-	5 (16%)	4 (40%)	4 (31%)	1 (25%)	-
Abortion	2 (40%)	-	1 (10%)	2 (15%)	75%	19.2%
Ectopic	-	1 (3%)	1 (10%)	-	-	-

* Clinical pregnancy rate per cycle

** Implantation rate per embryo

+ Not mentioned

NS non significant

CONCLUSIONS

- Increased incidence of pulmonary TB
- Increased incidence of genital TB
- Asymptomatic
- Infertility as the most frequent complaint
- No unique diagnostic technique
- Definite diagnosis: Histology/Laparoscopy
- Medical treatment
- IVF-ET treatment of choice for selected women