

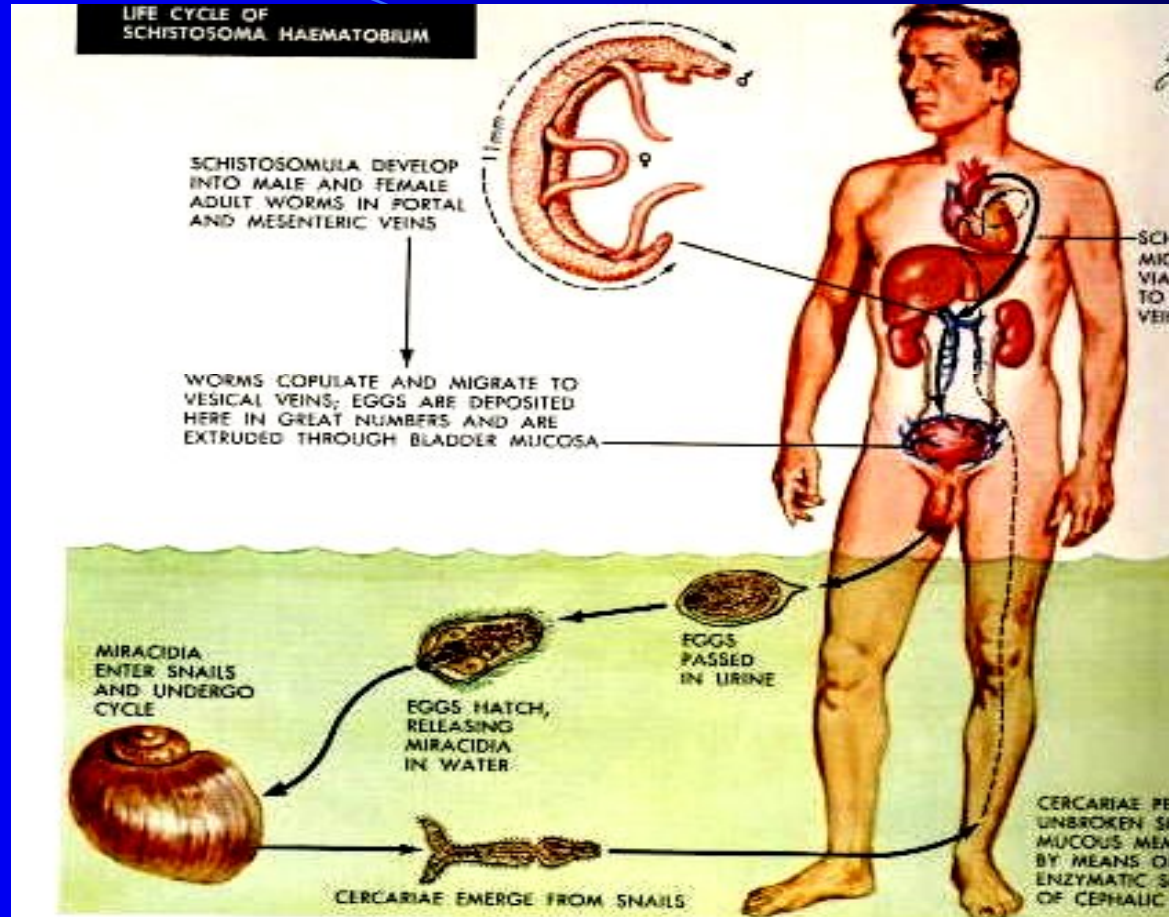
Schistosomiasis (Bilharziasis) of the Urinary Tract



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Schistosomiasis



GEOGRAPHIC DISTRIBUTION OF SCHISTOSOMIASIS



The Blood Fluke: 350 Million People World-wide



Fig. 2.16 Schistosomiasis. The slender female worm lies in a groove (the gynecophoral canal) in the lateral edge of the body of the male. Scanning electron micrograph. Courtesy of Dr V. Southgate and the publishers of *Systematic Parasitology*.



Schistosoma Hematobium: Terminal Spike

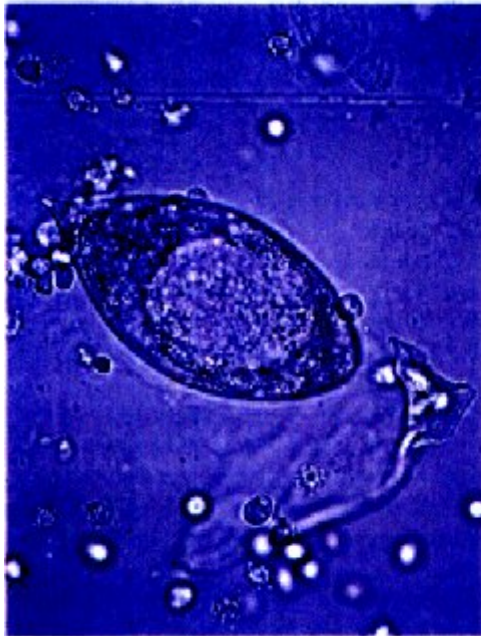


Fig. 2.19 Urinary schistosomiasis. Egg of *S. haematobium* in the urinary sediment. Note the terminal spine. Courtesy of Dr M. H. Winterborn.

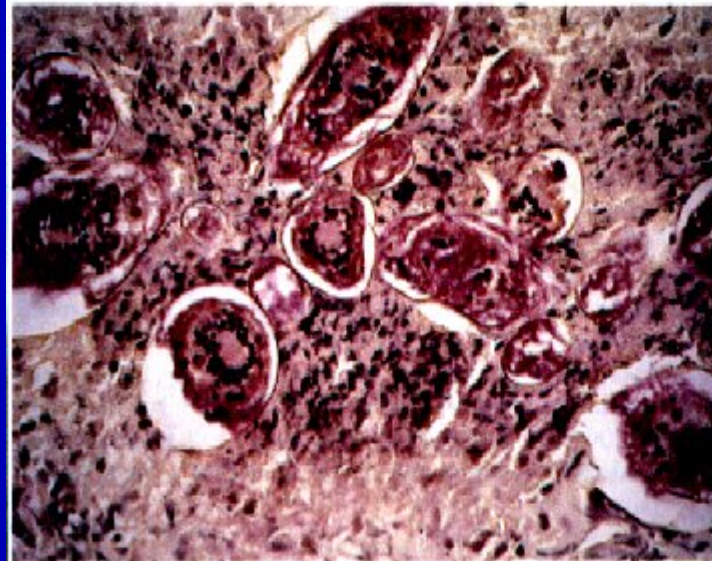


Fig. 2.17 Urinary schistosomiasis. High power view showing eggs of *S. haematobium* surrounded by granulomatous reaction within bladder wall. Courtesy of Dr J. Newman.

Distribution of Involvement

Table 6.2 Frequency of *S. haematobium* schistosomiasis involvement of organs in the UG tract

| | | | | | |
|-----------------|--------------------|-------------------------|-----------------------|------------------------|------------|
| Bladder | +++ | Prostate | ++ | Uterus | +++ |
| Ureters | ++ | Seminal vesicles | ++ | Ovaries | + |
| Kidney | (+) | Testes | (+) | Fallopian tubes | + |
| | | Epididymis | (+) | Vagina | +++ |
| (+) rare | + up to 30% | ++ up to 70% | +++ up to 100% | | |

Schistosomiasis Course Classification

| STAGE | PARASITOLOGICAL | CLINICAL | PATHOLOGICAL |
|-----------------------------------|--|--|--|
| 1. Stage of invasion | A. Penetration B. Migration | Cercarial skin reaction (if present) Fever, cough (if present) Katayama syndrome | Papular skin lesions Inflammatory reactions in lungs and liver |
| 2. Stage of maturation | Completion of maturation, and early oviposition; migration to definitive sites | Acute febrile illness (not always present; if present, not always recognized) | Hyperergic reactions (generalized and local) to products of eggs and/or young schistosomes |
| 3. Stage of established infection | Intense oviposition accompanied by a corresponding egg discharge | Stage of early chronic disease. Characteristic features include haematuria; or intestinal and other GI manifestations. | Local inflammatory response to ova, resulting mainly in granuloma formation. Fibrosis is not a dominant feature. |
| 4. Stage of late infection | Prolonged infection (egg discharge may be reduced or discontinued) | Chronic disorders, e.g. cor pulmonale, fistulae, obstructive uropathy, renal failure, portal hypertension | Progressive formation of fibrous tissue (varying in degree with severity of infection, and possibly with other factors) Complications according to the organs involved |

Table 6.1 A classification of the course of schistosomiasis – based on parasitological, clinical, and pathological aspects (Table [based on WHO Technical Report, 1965] modified from Edington, G. M. et al., 1976)

Pathology

a- Mucosal lesions.

Atrophic type:

simple atrophy
sandy patches

bladder ulcer
cystitis cystica

Hyperplastic and metaplastic type:

simple hyperplasia
bilharzial papilloma
Brunn's nests

cystitis glandularis
squamous metaplasia
leukoplakia

b- Submucosal lesions.

bilharzial nodule
bilharzial polyp

bilharzial fibrosis
bilharzial calcification

c- Muscular lesions.

muscular degeneration
muscular fibrosis

bladder neck fibrosis (obstruction)
contracted bladder

d- Perivesical lesions.

bilharzial pericystitis

Stage of Carcinogenesis:

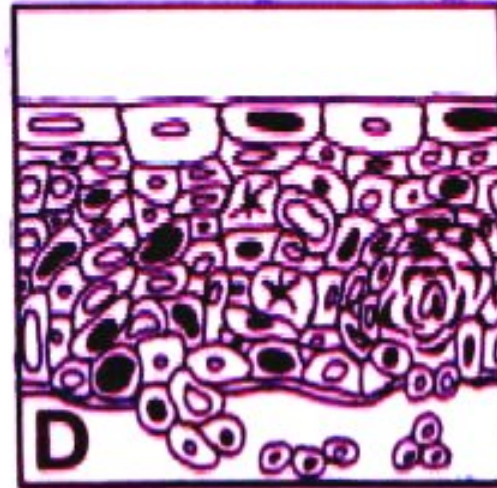
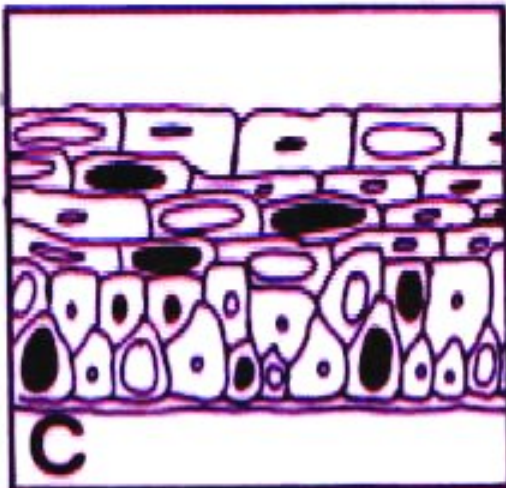
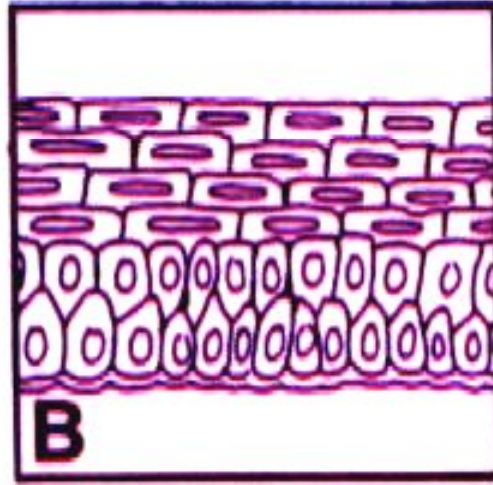
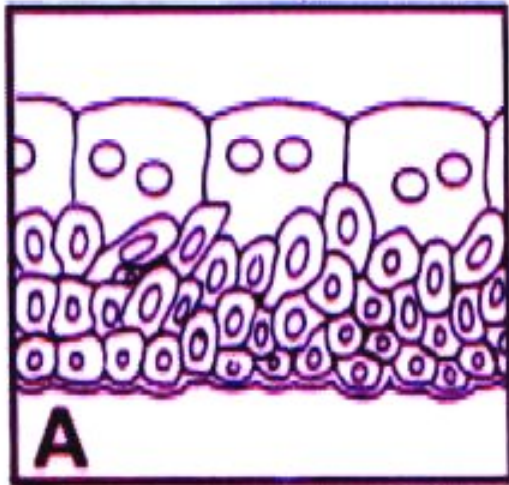
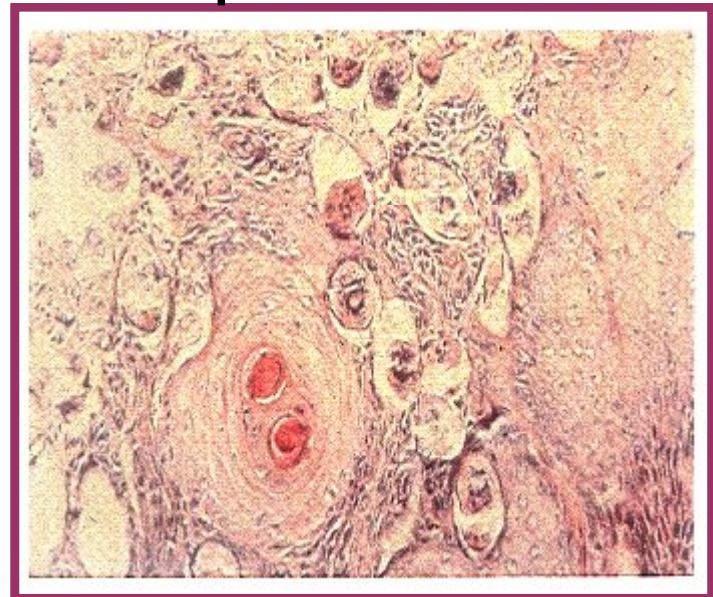


Fig. 6.8 Stages of carcinogenesis in the bladder
Normal transitional epithelium (A); squamous metaplasia (B); dysplasia (C); invasive squamous cell carcinoma (D)

Squamous cell carcinoma with keratin pearl formation



SCHISTOSOMIASIS OF THE URINARY BLADDER



SCHISTOSOMAL TUBERCLES AND NONSPECIFIC PATCHES OF EDEMA AND CONGESTION



SCHISTOSOMAL PAPILOMAS AND TUBERCLES



NODULAR CARCINOMA IN A SCHISTOSOMAL BLADDER



"END-STAGE" SCHISTOSOMAL BLADDER: FIBROSIS AND CALCIFICATION OF THE BLADDER WALL, NUMEROUS PAPILOMAS AND NODULES, SANDY PATCHES WITH PALE YELLOW AVASCULAR APPEARANCE, CHRONIC ULCERS, ENCRUSTATION, BLADDER NECK AND LEFT URETERAL ORIFICE OBSTRUCTED

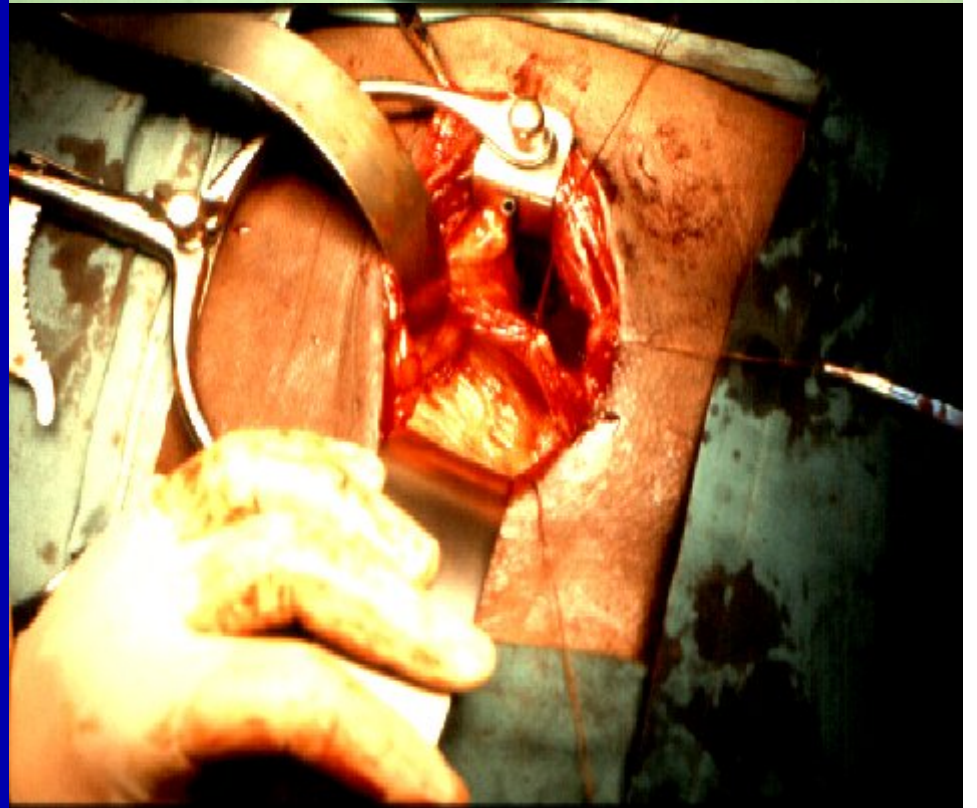
F. Netter M.D. © CIBA



PLAIN FILM DEMONSTRATING CALCIFICATION OF THE BLADDER



INTRAVENOUS PYELOGRAM: BLADDER FILLING DEFECTS, HYDROURETER, AND HYDRONEPHROSIS

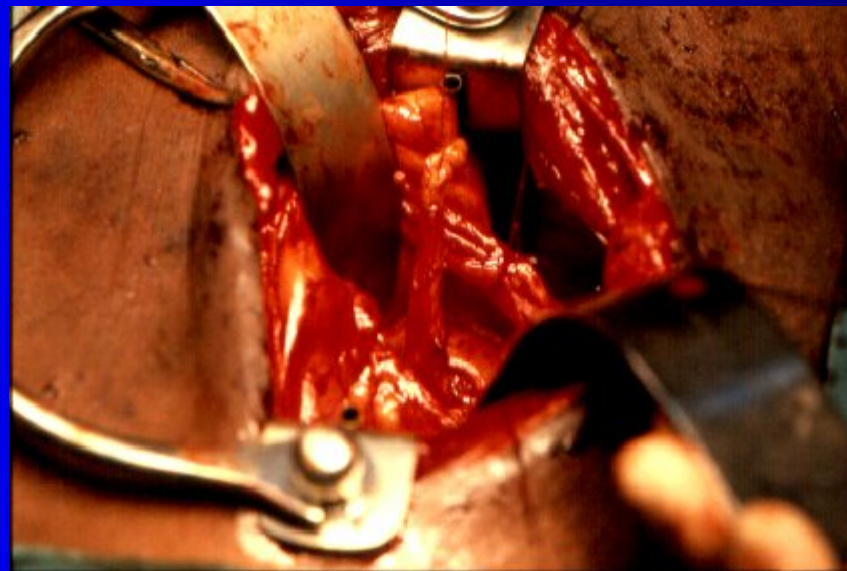


Schistosomiasis: Treatment

- Medical:
 - Praziquantel: against all human schistosome species, dose 20-40 mg/kg
 - Metrifonate
 - Oxamniquine
 - Niridazole
 - Antimonial drugs no longer used
- Surgical: e.g. Dilatation or excision of ureteral strictures, bladder neck resection
- Treatment of complications: e.g. Partial or total cystectomy



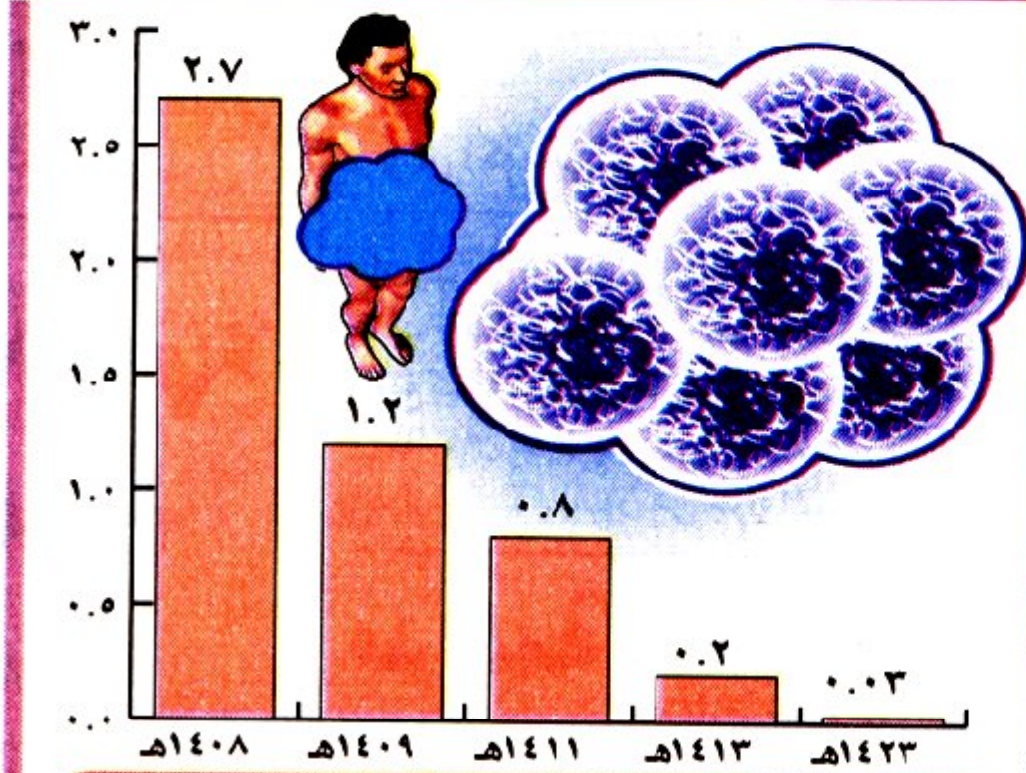
Fig. 2.18 Schistosomiasis. Plain abdominal x-ray showing calcification outlining the bladder wall, a late reaction in the chronic granulomatous reaction due to *S. haematobium* infection. Courtesy of Dr D. Tudway.



تطويق البلهارسيا والملاريا في نجران

محسن الربيعان (نجران)

نسبة انخفاض البلهارسيا في منطقة نجران



تطعيم ٤٤١٤٦ طفلاً وطفلة خلال ٣ أيام باستخدام ٤٨٣٣٠ جرعة



تصميم: الهلالي

طفلاً وطفلة ضد شلل الاطفال في الايام الثلاثة الاولى للحملة باستخدام ٤٨٣٣٠ جرعة من اللقاح المستخدم،

وآليات المقاومة الحديثة ذات الدور البارز في مكافحة هذه الامراض. من جانب اخر قامت فرق التطعيم بالمنطقة بتطعيم ٤٤١٤٦

الجهود المتواصلة للمديرية العامة للشؤون الصحية في منطقة نجران لمحاربة الامراض الشائعة ادت لتخفيض نسبة الاصابة بالبلهارسيا من ٢,٧% قبل اكثر من ١٣ سنة الى ٠,٠٣% ونسبة الاصابة بالمalaria من ٤,٧ الى ٣,٩%.

مدير الرعاية الصحية الاولى بصحة المنطقة حسين حسن آل قريشة اوضح ان فرق مكافحة تواصل اعمالها في مختلف ارجاء المنطقة عن طريق مراكز الرعاية الصحية الاولى بحثاً عن مصادر العدوى ومعالجتها ومكافحة نواقل الامراض المستوطنة مثل البلهارسيا والملاريا موضحاً انه تم تنفيذ العديد من المشاريع في مجال الطب الوقائي اهمها اعتماد انشاء مبني للطب الوقائي في محافظ حبونا وتزويد مراكز الرعاية الصحية الاولى بوسائل