

Sonographische Feldstudien bei Kindern und Erwachsenen mit *Schistosoma haematobium* und *mansoni* Infektionen

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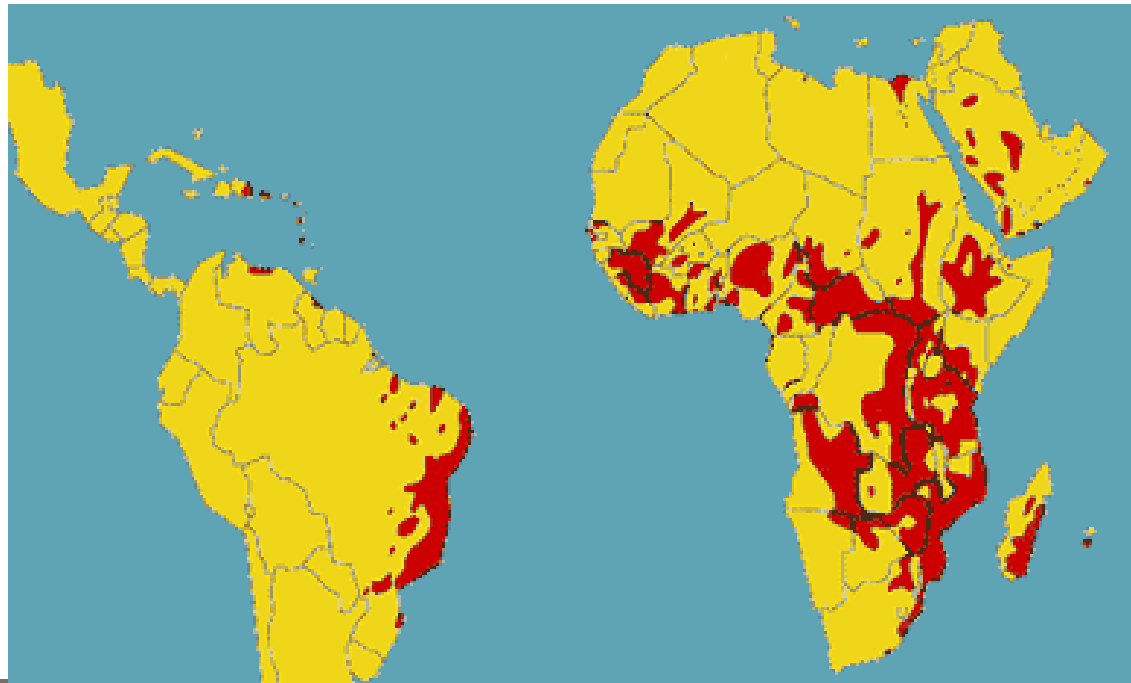


Schistosomiasis (Bilharziose)

Weltweit leben mehr als 600 Mio. Menschen in
Endemiegebieten

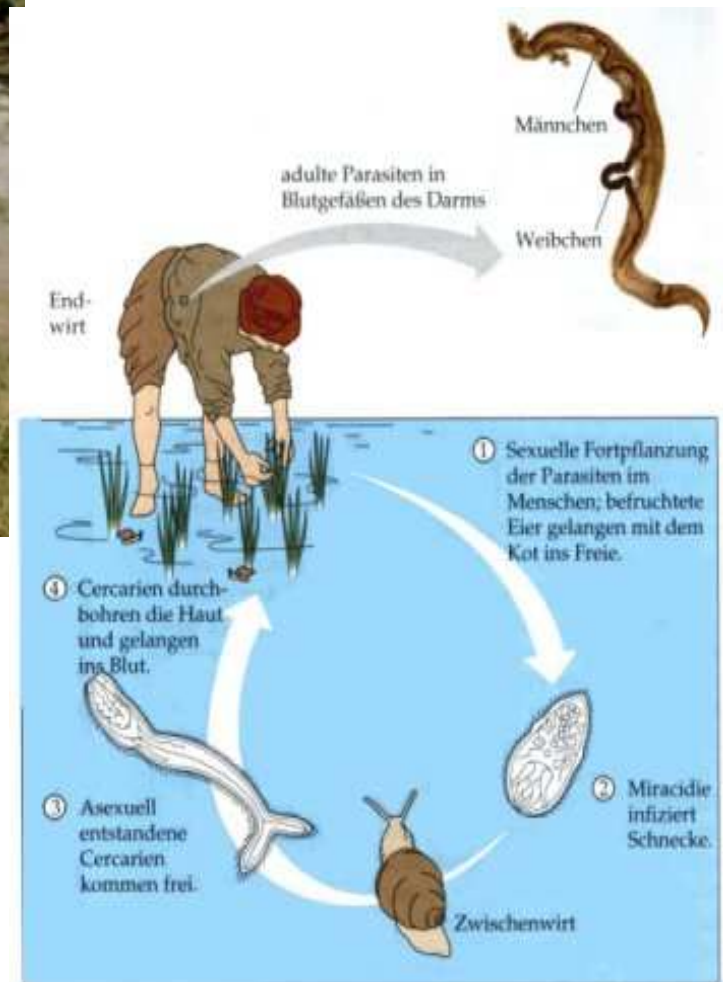
230 Mio. Menschen infiziert

10% schwere Verlaufsformen (Richter 2010)



Sudan





Urogenitale Schistosomiasis – Klinik (*S. haematobium*)



- Terminalen Hämaturie
- Dysurie
- Blasengranulome
- Blasenkarzinom
- Granulomatöse oder ulzerierende Läsionen des Genitaltraktes

Klinik der hepatosplenischen Schistosomiasis (*S. mansoni*)



- (Asymptomatisch)
- Blutige Diarrhoe
- Hepatomegalie



Klinik der hepatosplenischen Schistosomiasis (*S. mansoni*)



- Asymptomatisch
- Blutige Diarrhoe
- Hepatomegalie
- Periportale Leberfibrose
- Zeichen der portalen Hypertension



Warum Feldstudien?



Fragestellungen für Feldstudien

- Epidemiologische Untersuchungen
- Beschreibung neuer Foki
- Sonographische Pathologie vor und nach Therapie
- Grading
- Identifizierung von Risikopopulationen
- Ungewöhnliche klinische Präsentation
- Evaluierung neuer diagnostischer Methoden

SONOMORPHOLOGICAL ABNORMALITIES IN SUDANESE CHILDREN WITH *SCHISTOSOMA MANSONI* INFECTION: A PROPOSED STAGING-SYSTEM FOR FIELD DIAGNOSIS OF PERIportal FIBROSIS

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Abstract. For the purpose of staging sonographical abnormalities induced by *Schistosoma mansoni* infection in childhood, 536 patients aged 6–15 years underwent extensive sonographical examination. Specific findings of periportal fibrosis were classified in 3 grades and occurred in study patients but not in controls (n = 60). Grade I consisted of echogenic bands usually with a diameter >4 mm that were best visible in the area of the portal vein bifurcation and gallbladder neck. Frequently a continuous U-shaped echogenic structure extended from the left portal branch to the gallbladder bed. Grade II was characterized by echogenic bands usually >10 mm in diameter around the central part and major branches of the portal vein. In addition to features common to grade II, grade III included streak-like fibrous bands that were not confined to portal vein lumina but extended into the periphery of the liver. Sonographical abnormalities encountered in children with *S. mansoni* infection differed significantly from those in adults.

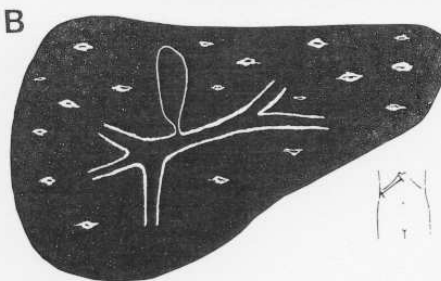
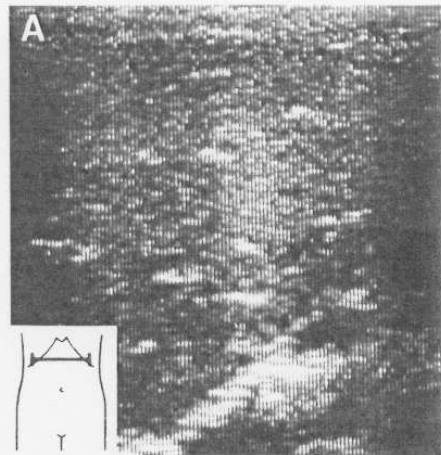


FIGURE 4. A. Transverse scan through the upper right abdomen. Small highly brilliant echogenicities are scattered throughout the right liver lobe. The morphological picture resembled a school of fish in the water, and represented peripheral periportal fibrosis. B. Artist's rendering of pathologic findings.

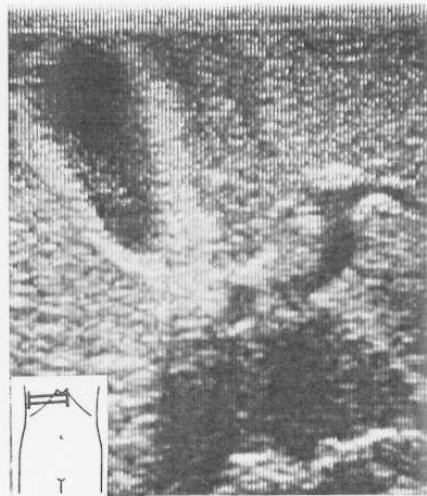


FIGURE 5. Transverse section of the liver depicting the gallbladder and central portal vein. The gallbladder wall is markedly enlarged.

were seen (Fig. 3). The central fibrosis was more impressive than in grade II, and a blunted caudal liver edge was frequently encountered.

Another specific finding was multiformed, predominantly tubular, highly brilliant echogenic patches that were diffusely scattered throughout the liver (Fig. 4). These were usually <3 mm in diameter and up to 1 cm in length. They reminded the observers of a school of fish in the water. This finding was called peripheral fibrosis. These patches were larger than intrahepatic bile ducts. In doubtful cases, the abdominal ultra-



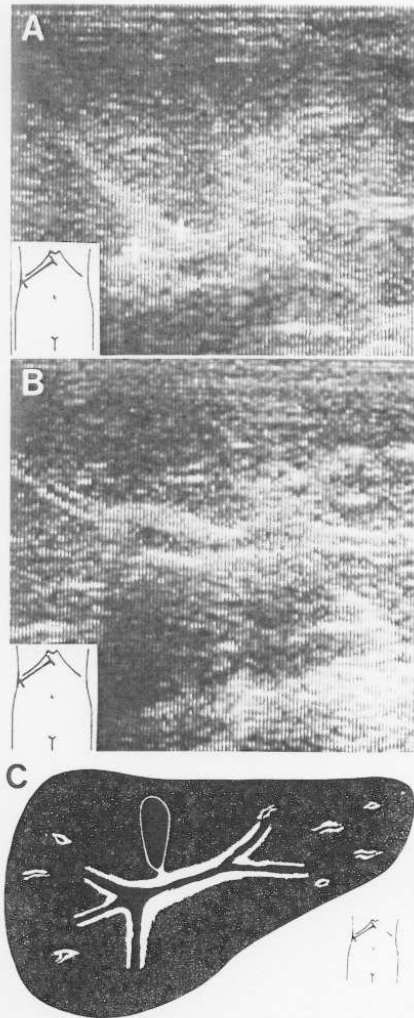


FIGURE 2. A. Oblique section with broad echogenicities > 10 mm in width, indicating degree II periportal fibrosis. B. Oblique subcostal section showing periportal echogenicities around central and peripheral parts of the portal vein. This was regarded as the main distinction between degree I and II. C. Artist's rendering of pathologic findings.

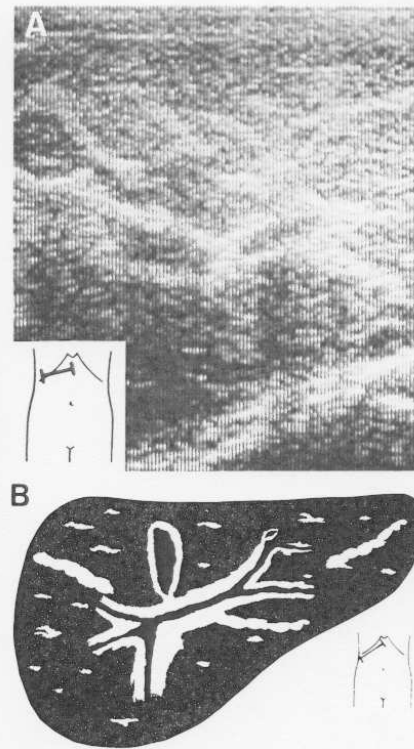


FIGURE 3. A. Transverse scan through the middle and right side of the abdomen. The complete liver is characterized by echogenic streaks of a diffuse distribution. The bands are not necessarily confined to portal vein lumina and are thereby indicators of degree III periportal fibrosis. B. Artist's rendering of pathologic findings.

the main portal vein branches. A highly characteristic finding was a U-shaped echogenic formation in a transverse subcostal section, indicated by arrows in Figure 1A. The wings of the U-structure extended from the medial gallbladder bed to the left portal vein. A clearly visible U-figure consisting of prominent periportal bands was considered as the initial sign of periportal fibrosis in pediatric patients with *S. mansoni* infection.

Broad, highly echogenic bands (usually > 10 mm in width) characterizing grade II were en-

Periportale Fibrose („pipe-stem fibrosis“)

Einmalige Therapie mit Praziquantel 40 mg/kg



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ULTRASONOGRAPHICAL INVESTIGATION OF PERIportal
FIBROSIS IN CHILDREN WITH *SCHISTOSOMA MANSONI*
INFECTION: REVERSIBILITY OF MORBIDITY TWENTY-THREE
MONTHS AFTER TREATMENT WITH PRAZIQUANTEL

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Vielen Dank!

