Gallbladder Pathology in Biliary Atresia

Dr. N. Fourie,
Prof. B. Banieghbal, Dr. C. M. Zbiegaj-Zwick, Prof. D. Sidler
Dr. C. de Vos, Dr. P. T. Schubert*
Division of Paediatric Surgery
*Division of Anatomical Pathology
Tygerberg Children’s Hospital
University of Stellenbosch
Introduction

- Unknown aetiology, multifactorial pathogenesis
  - Environmental trigger
  - Immune dysregulation
  - Genetic factors

- 4 Broad groups (South Africa):
  - Isolated BA (~60%)
  - CMV-IgM+ (30%)
  - Syndromic BA with associated malformations (10%)
  - Cystic BA (<5%)
Biliary Atresia (Disease Process)

Destructive, inflammatory process

Mostly extrahepatic bile ducts

Fibrosis & biliary tract obliteration

Biliary cirrhosis
Classification

Type 1 (~5%)
Often cystic
Gallbladder - contains bile

Type 2 (~2%)
Visible patent ducts at porta

Type 3 (>90%)
Atrophic gallbladder, obliterated biliary tree
Atrophic gallbladder, absent CBD
Mucocele of gallbladder, absent CHD

Portal Plate Histology
x 100 magnification
x 200 magnification
Histology of Normal Gallbladder
Fibrotic Gallbladder in BA
Partially Fibrosed Gallbladder (1)
Partially Fibrosed Gallbladder (2)
Partially Fibrosoed Gallbladder (3)
Partially Fibrosed Gallbladder (4)
Near Normal Gallbladder in BA
x 200 Magnification
Innate Immune Activation & Dysregulation

Conclusion

• Equal extra-hepatic bile duct & gallbladder epithelial damage is expected

• Immune dysregulation is therefore unlikely to be responsible for the specified sub-group of BA
References:


