

Bacterial Infection in etiology of Pigment Gallstones

Gall Stone Disease is widely prevalent in world with Ultrasound studies showing mean prevalence rates of 10-15% in adult European, and of 3-5% of adult African & Asian populations.

Gallstones can be biochemically divided into 3 classes: 1. Pure Cholesterol Gallstones 2. Pigment Gallstones 3. Mixed Gallstones

Majority of gallstones are cholesterol stones. Pigment gallstones are made up of calcium bilirubinate (main Ingredient). They are of brown or black colour depending upon their composition. Brown pigment stones are an important cause of acute cholangitis in Oriental Cholangiohepatitis. Bacterial infection and the deconjugation of bile by bacterial -Glucourindase have been implicated as etiological factors in formation of brown pigment stones but controversy exists regarding their primary importance and causal relationship.

The stones have been analyzed by various methods, besides stone cultures, including by chemical microscopy, Infrared Spectrophotometry, Polarized Light Microscopy, X-ray Diffraction, Scanning Electron Microscopy (SEM) & Transmission Electron Microscopy (TEM) leading some credibility to bacterial infection relationship

Bile is usually sterile in healthy individuals; however in presence of gallstones in gallbladder or biliary ducts, it could be colonized with bacteria. Detecting bactobilia could be valuable for planning antibiotic prophylaxis and treatment of postoperative infections after laparoscopic cholecystectomy. The overall incidence of bactobilia has been shown from 2.8% to 25% in different studies.

In this context, authors have confined themselves to studies of only pigment stones, leading to perceived high rate of

positive cultures. However, the data points to higher incidence of bacterial origin of Gallstones

I do acknowledge that a holistic data including all types of stones would have been more representative of the data and further research that is more inclusive needs to be carried out to find the true nature of causal relationship of stone & bile culture and gallstones

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