

Gallstone analysis / Putri, Fransiska, Indrasari, Nuri Dyah

Putri, author

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Abstrak

ABSTRAK

Gallstone is a crystal deposit which is formed in the gallbladder or bile duct. Gallstone is classified into cholesterol stone, pigment stone (black and brown), and mixed stone. Mechanism which underlies the formation of cholesterol or pigment gallstone is different. Information on chemical component of the stone will assist the management and prevention of its recurrence. Analysis of gallstone component can be performed by colorimetry method or even gas liquid chromatography (GLC). Chemical component analysis of gallstone by colorimetry includes examination of cholesterol, bilirubin, and calcium. Stone is classified as cholesterol stone if the cholesterol content is $> 80\%$, pigment stone if cholesterol content is $< 20\%$, and mixed stone if cholesterol content is $25-80\%$. Gallstone analysis by GLC method is conducted by separation of fatty acid chain and evaluation of fatty acid quantity in the methylester derivatives form, which is fatty acid methyl ester. Fatty acid content in cholesterol stone (310.09 ± 49.7 mg/gram) is higher compared to pigment stone (55.59 ± 7.71 mg/gram). Saturated to unsaturated fatty acid (S/U) ration in cholesterol stone (8.6 ± 3.1) is higher compared to pigment stone (4.8 ± 1.5).