

# Hiperbilirubinemia sebagai prediksi terhadap apendisitis perforasi = Hyperbilirubinemia as a prediction for perforated appendicitis

Sun Parkuseg Siregar, author

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## Abstrak

**Introduksi:** Penegakkan diagnosis apendisitis perforasi sebelum operasi berpengaruh terhadap morbiditas pasien. Dengan anamnesis, pemeriksaan fisik dan pemeriksaan penunjang berupa peningkatan nilai lekosit, dan netrofil segmen dan peningkatan nilai bilirubin total pre-operatif diharapkan dapat memprediksi diagnosis apendisitis perforasi.

**Metode:** Dari 128 pasien apendisitis akut yang datang ke IGD dilakukan pemeriksaan nilai bilirubin total dan dilakukan apendektomi dikumpulkan retrospektif dari Januari-Juli 2016. Data karakteristik pasien, hasil laboratorium darah dan laporan operasi diambil dari rekam medik, dilakukan analisis multivariat untuk melihat korelasinya.

**Diskusi:** Dari 128 pasien yang didiagnosis awal sebagai apendisitis akut sebanyak 68,8% dan apendisitis perforasi sebanyak 31,3% didapatkan temuan intra operatif apendisitis non perforatif sebanyak 46,9% dan apendisitis perforasi sebanyak 53,1% nilai rata-rata bilirubin total adalah 1,19 mg/dL dan nilai cut off 1,00 mg/dL. Nilai sensitivitas 77,94%; spesifitas 76,67%, nilai prediktif positif 79,1% dan nilai prediksi negatif 75,41%. Pada analisis multivariat didapatkan nilai bilirubin total (odds ratio 5,016; 95% confidence interval 2,092-12,026;  $P < 0,0001$ ), leukosit (odds ratio 1,993; 95% confidence interval 0,893-4,451;  $P = 0,092$ ) dan avarado score (odds ratio 3,193; 95% confidence interval 1,542-6,611;  $P = 0,002$ ) secara statistik signifikan untuk memprediksi diagnosis apendisitis perforasi pre-operatif.

**Hasil:** Hiperbilirubinemia secara satistik signifikan untuk memprediksi diagnosis apendisitis perforasi pre-operatif.

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**Introduction:** The diagnosis accuracy of perforated appendicitis prior to surgery influence morbidity. By anamnesis, physical examination, laboratory finding such as increasing leukocytes count, neutrophil segment and pre-operative total bilirubin expected to predict the diagnosis of appendicitis perforation.

**Method:** A retrospective study conducted enrolling those diagnosed as perforated appendicitis in period of January to July 2016. The subject characteristic, leukocytes count, total bilirubin were variables subjected statistical. Significance met if  $p < 0.0001$ .

**Results:** Among 128 subjects enrolled, 31.3% out of 88 who diagnosed as acute appendicitis and 46.9% perforated appendicitis found intraoperatively. Mean value of total bilirubin pre-operative was 1,19 mg/dL and cut off point of 1,00 mg/dL. Sensitivity of 77.94%, specificity of 76.67%, positive predictive value 79.1%, negative predictive value of 75.41%. The multivariate analysis demonstrated that total bilirubin

(Odds ratio 5.016; 95% confidence interval 2.092-12.026;  $p = <0.0001$ ), leukocyte (Odds ratio 1.993; 95% confidence interval 0.893-4.451;  $p = 0.092$ ) and avarado score (Odds ratio 3.193; 95% confidence interval 1.542-6.611;  $p = 0.002$ ) have statistically significant diagnostic value for perforated appendicitis.

Conclusion: Hyperbilirubinemia is a statistically significant as a predictor to diagnose perforated appendicitis pre-operative.