

ABSTRACT

Background: In blunt abdominal trauma, selective non-operative management (NOM) is preferred for hemodynamically stable patients, yet intra-abdominal free fluid (IAFF) on USG FAST/contrast-enhanced CT and solid organ injury (SOI) on CT may shift the initial decision toward operative intervention.

Objective: To evaluate the association of hemodynamic status and imaging findings (IAFF, SOI) with the initial decision for NOM versus operative management in adult blunt abdominal trauma, and to assess the correlation between IAFF and SOI.

Method: A retrospective cross-sectional chart review with total sampling was conducted among adult blunt abdominal trauma cases at RSUP Dr. Sardjito, Yogyakarta (n=96). Hemodynamic status (stable vs unstable; stable defined as systolic blood pressure ≥ 90 mmHg without vasopressors), IAFF on USG FAST and/or contrast-enhanced CT, SOI on contrast-enhanced CT, and the initial management decision were extracted from medical records. Associations were analyzed using Pearson chi-square ($p < 0.05$).

Results: Mean age was 36.55 ± 17.84 years and 67.7% were hemodynamically stable. IAFF was present in 55 (57.3%) and SOI in 78 (81.3%). NOM was selected in 51 (53.1%) and surgery in 45 (46.9%). Hemodynamic status was strongly associated with management ($p < 0.001$): 49/65 stable patients received NOM, whereas 29/31 unstable patients underwent surgery. IAFF presence was associated with operative management ($p < 0.001$): 40/55 IAFF-positive patients underwent surgery versus 5/41 IAFF-negative patients. SOI presence was also associated with operative management ($p < 0.001$). IAFF was not significantly correlated with SOI ($\chi^2(1) = 0.838$, $p = 0.360$). Overall survival was 95.8% with a mean length of stay of 7.2 days.

Conclusion: Hemodynamic stability remains the primary determinant of initial NOM versus surgery, while IAFF and SOI significantly influence operative selection. Because IAFF did not reliably predict SOI, imaging should be interpreted alongside physiology and injury severity grading, with repeat imaging when indicated, to avoid non-therapeutic laparotomy and support safe selective NOM.

Keywords: Blunt abdominal trauma, Non-operative management, Hemodynamic status, Intra-abdominal free fluid, Solid organ injury

ABSTRAK

Latar Belakang: Pada trauma tumpul abdomen, non operative management (NOM) selektif lebih dipilih pada pasien dengan kondisi hemodinamik stabil, namun temuan intra abdominal free fluid (IAFF) pada USG FAST atau CT kontras serta solid organ injury (SOI) pada CT dapat menggeser keputusan awal ke arah tindakan operatif.

Tujuan: Mengevaluasi hubungan status hemodinamik dan temuan pencitraan (IAFF, SOI) terhadap keputusan awal NOM dibanding manajemen operatif pada pasien dewasa trauma tumpul abdomen, serta menilai korelasi antara IAFF dan SOI.

Metode: Penelitian potong lintang retrospektif melalui telaah rekam medis dengan total sampling dilakukan pada kasus dewasa trauma tumpul abdomen di RSUP Dr. Sardjito, Yogyakarta (n=96). Status hemodinamik (stabil vs tidak stabil; stabil didefinisikan sebagai tekanan darah sistolik ≥ 90 mmHg tanpa vasopresor), IAFF pada USG FAST dan atau CT kontras, SOI pada CT kontras, serta keputusan awal manajemen diekstraksi dari rekam medis. Analisis hubungan menggunakan uji chi square Pearson ($p < 0,05$).

Hasil: Rerata usia $36,55 \pm 17,84$ tahun dan 67,7% pasien berada dalam kondisi hemodinamik stabil. IAFF ditemukan pada 55 (57,3%) pasien dan SOI pada 78 (81,3%) pasien. NOM dipilih pada 51 (53,1%) pasien dan operasi pada 45 (46,9%) pasien. Status hemodinamik berhubungan kuat dengan keputusan manajemen ($p < 0,001$): 49 dari 65 pasien stabil mendapat NOM, sedangkan 29 dari 31 pasien tidak stabil menjalani operasi. Keberadaan IAFF berhubungan dengan manajemen operatif ($p < 0,001$): 40 dari 55 pasien IAFF positif menjalani operasi dibanding 5 dari 41 pasien IAFF negatif. Keberadaan SOI juga berhubungan dengan manajemen operatif ($p < 0,001$). IAFF tidak berkorelasi signifikan dengan SOI ($\chi^2(1) = 0,838$; $p = 0,360$). Luaran keseluruhan menunjukkan survival 95,8% dengan rerata lama rawat 7,2 hari.

Kesimpulan: Stabilitas hemodinamik tetap menjadi penentu utama keputusan awal NOM dibanding operasi, sementara IAFF dan SOI berpengaruh signifikan terhadap pemilihan tindakan operatif. Karena IAFF tidak dapat memprediksi SOI secara andal, interpretasi pencitraan perlu dipadukan dengan kondisi fisiologis dan derajat keparahan cedera, serta dipertimbangkan pemeriksaan ulang bila diperlukan untuk menghindari laparotomi non terapeutik dan mendukung NOM selektif yang aman.

Kata Kunci: Trauma tumpul abdomen, Non operative management, Status hemodinamik, Intra abdominal free fluid, Solid organ injury