

Does the spleen fully recover? Immune function after non-operative management of blunt splenic injury in pediatric patients

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Background: Blunt splenic trauma in children is increasingly managed non-operatively (NOM), given the spleen's critical role in immune function and the high success rate of NOM. While the immunodeficiency following splenectomy is well-established, the long-term immune outcomes after NOM for high-grade splenic injuries remain underexplored in pediatric patients.

Methods: A matched-pair case-control study was conducted, including children under 18 treated with NOM for AAST grade III-V blunt splenic injuries between 2013 and 2023, and age-, sex-, and year-matched controls with uncomplicated appendicitis. Data on demographics, medical history, infection-related outcomes, and healthcare utilization were collected from medical records, national health databases, and caregiver questionnaires.

Results: Sixty children with high-grade splenic injuries were matched with 60 controls. Over a mean follow-up of 5.4 years, infection rates, including pneumonia and otitis media, were comparable between groups. No cases of overwhelming post-splenectomy sepsis or positive blood cultures were reported. Antibiotic use was similar (31.3% in the NOM group vs. 23.6% in controls, $p=0.39$).

Conclusions: Non-operative management of high-grade blunt splenic injuries in children preserves splenic immune function, as evidenced by low infection rates and outcomes comparable to healthy controls. These findings suggest there is no need for vaccination and prophylactic antibiotic treatment in this population. Further research incorporating laboratory assessments is warranted to validate and refine long-term management strategies.

Biography

Dr. Adi Ben Ishai Becker is a passionate paediatrician in her final year of residency at Schneider Children's Hospital in Petach Tikva, Israel. She has been serving as the Chief Resident for the past year, overseeing all residents, managing their schedules and guiding their academic progress. She graduated with honors from Tel Aviv University, where she developed a strong foundation in both clinical practice and research. Throughout her residency, she has demonstrated a deep commitment to providing compassionate care for children and has worked across various pediatric specialties, honing her skills in emergency and intensive care, neonatology and immunology. In addition to her clinical work, she has a keen interest in advancing pediatric medicine through research, particularly in the areas of pediatric immunology and surgery. She is dedicated to staying up-to-date with the latest advancements in pediatric care and is eager to collaborate with fellow professionals to improve patient outcomes.

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