

Abdominal compartment syndrome: does intra-cystic pressure reflect actual intra-abdominal pressure? A prospective study in surgical patients

ABSTRACT

In the present study model, intra-cystic pressure did not reflect actual intra-abdominal pressure. In spite of some limitations in the study design, we feel that further research is warranted to identify other possible variables that may play a role in the relationship between the urinary bladder and the abdominal cavity pressures, providing better means for diagnosis of abdominal compartment syndrome.

INTRODUCTION

Introduction Abdominal compartment syndrome (ACS) is defined as the adverse physiologic consequence of acutely increased intra-abdominal pressure (IAP). Prolonged, unrelieved increased IAP at greater than 20mmHg can produce pulmonary compromise, renal impairment, cardiac failure, shock, and death. ACS is diagnosed by measuring intra-cystic pressure (ICP) as a reflection of IAP using a Foley catheter. This technique was popularized by Kron et al in 1984 after small animal studies. Human studies correlating ICP and IAP are lacking to date. To identify the relationship between the pressures across the urinary bladder wall, we simultaneously measured the pressures across the urinary bladder wall in 21 surgical patients in a prospective manner.

CONCLUSION

In the present study model, ICP did not reflect actual IAP. In spite of some limitations in the study design, we feel that further research is warranted to identify other possible variables that might play a role in the relationship between the urinary bladder and the abdominal cavity, providing better means for diagnosis of ACS. We are currently embarking on a prospective study on severely injured trauma patients in an attempt to answer some of these questions.