

Intra-abdominal Hypertension—Implications for the Intensive Care Physician

G M Joynt,*^{MBBCh, FFA(SA)(Crit Care)}, S J Ramsay,**^{MBBS, FRCA}, T A Buckley,**^{MBChB, FFICANZCA, FICANZCA}

Abstract

Introduction: Intra-abdominal hypertension is becoming increasingly recognised in intensive care patients. The objective of this paper was to review the modern published literature to establish a representative consensus view of the incidence, causes, pathophysiology, management and outcome of intra-abdominal hypertension. **Methods:** A computerised MEDLINE search from 1966 to November 2000 was conducted using the Medical Subject Heading and textwords “abdominal”, “compartment syndromes”, “intra-abdominal” and “hypertension” and “pressure”. The references of recent articles were checked for additional relevant citations. Papers were independently assessed for relevance by authors SJR and GMJ using a data collection format. Data were assessed qualitatively and papers detailing physiologic variables, effects of decompression and outcome were abstracted in table form. **Conclusions:** Intra-abdominal hypertension exists when intra-abdominal pressure exceeds 10 to 12 mmHg as physiological aberrations are manifest above this pressure. Incidence is 5% to 40% in high-risk surgical patients. Pathophysiological changes caused by intra-abdominal hypertension include effects on the gastrointestinal, cardiovascular, renal, respiratory and central nervous systems. An association between intra-abdominal hypertension and subsequent multiple organ failure has been repeatedly shown, although causation remains unproven. Monitoring intra-abdominal pressure (IAP) by measuring urinary bladder pressure is easy and accurate. However, it is unclear what level of intra-abdominal pressure requires intervention (decompression), or what length of time intra-abdominal hypertension can be tolerated before significant end organ damage occurs. In the absence of good outcome data, expert consensus is that an acute increase of IAP to above 20 to 25 mmHg and/or evidence of abdominal compartment syndrome warrants urgent decompression. While some progress has been made in describing and managing this clinical entity, further studies are needed to fully understand the clinical implications and confirm appropriate management of this condition.

Ann Acad Med Singapore 2001; 30:310-9

Key words: Abdominal compartment syndrome, Abdominal decompression, Bacterial translocation, Intra-vesical pressure, Multiple organ failure

* Associate Professor and Director

** Assistant Professor

Department of Anaesthesia and Intensive Care
The Chinese University of Hong Kong

*** Consultant

Intensive Care Unit
Prince of Wales Hospital

Address for Reprints: Dr Gavin M Joynt, Department of Anaesthesia and Intensive Care, Prince of Wales Hospital, Sha Tin, NT, Hong Kong SAR.

E-mail: gavinmjoynt@cuhk.edu.hk