Elevated Intra-abdominal Pressure is a “Second-hit”

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Dear Sir,

I read with interest the article entitled “Prospective study of intra-abdominal pressure following major elective abdominal surgery” by Scollay et al. [1]. The authors measured the intra-abdominal pressure (IAP) in 42 patients after elective laparotomy for various foregut and hepatopancreatobiliary procedures. Five patients (12%) developed low grade intra-abdominal hypertension (IAH) [2]. There were no significant postoperative complications in four of these five patients. The authors concluded that “the routine measurement of IAP in the postoperative period is not warranted.” This conclusion likely needs further clarification.

An elevated IAP reduces the blood flow to the abdominal viscera [3]. The reduction in visceral perfusion is objectively quantified in terms of the abdominal perfusion pressure (APP), which is measured by subtracting IAP from the mean systemic blood pressure (MBP) [4]. This reduced blood flow (i.e., reduced APP) may affect anastomotic integrity and lead to postoperative complications. However, mildly elevated IAP by itself may not reduce the APP to critical levels. Only when the MBP is lowered sufficiently (especially in critically ill patients) can IAH act as a “second-hit” to lower the APP further. This reduced visceral perfusion could then adversely affect the anastomosis and lead to postoperative complications [5].

Moreover, absence of any significant complications attributable to IAH in this series of patients renders the study underpowered to make a case for abandoning IAP measurements in critically ill patients and patients who undergo major abdominal surgery.

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