

# 3<sup>rd</sup> International Conference on Surgery and Anesthesia

November 17-19, 2014 Chicago, USA

## Spontaneous perforation of colon in adults: Multi-center experience

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**Background:** Spontaneous perforation of colon (SPC) is a rare disease and defined as a sudden perforation of the normal colon with no definite cause. The purpose of this study is to review our experience in dealing with this entity and investigate the etiology, diagnosis, classification and treatment of SPC.

**Methods:** Between January 1997 and December 2013, a total of 31 patients with SPC were treated in our institutions. Subjects were divided into two groups. One was stercoral perforation (I type, n=24) vs. non-stercoral perforation (II type, n=7), another was survivor group (n=20) vs. deceased group (n=11). We retrospectively reviewed the clinicopathologic data, treatment procedure, and outcome of management, which revealed some previously unreported findings.

**Results:** The mean age of the patients at time of surgery was  $64.3 \pm 7.0$  years (range: 49-83years). The overall mortality rate was 35.5% (11/31). I type mortality rate were significantly higher than II type (41.7% vs. 14.3%;  $P=0.004$ ). The commonest site of SPC was the sigmoid colon (56.3%) followed by the rectosigmoid colon (19.5%). Twenty-six patients (83.9%) had a history of chronic constipation. Creatine phosphokinase (CPK) levels were higher in patients with constipation than in those without constipation (186 U/L vs. 49 U/L;  $P=0.028$ ). Computed tomography images or X-rays showed either free air or a dirty mass that indicated extraluminal feces in 27 cases. Surgical procedures were colostomy with resection of the perforation site (n=27), simple colostomy (n=3) and neoplasty (n=1).

**Conclusion:** SPC is a bad condition with a high mortality rate after surgery. SPC (I type) most commonly occurs in the sigmoid colon of elderly people who have chronic constipation and may be associated with high CPK levels. Colostomy with resection of the perforation site of colon and sigmoid colostomy are the most frequent treatment.

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