

Description of a New Clinical Sign in Evaluating the Patients with Gastro-Intestinal Perforation

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Dear Editor,

Gastrointestinal perforation is a surgical emergency and one of the most common causes of acute abdomen. Abdominal signs of peritonitis secondary to hollow viscus perforation are non-specific and includes distention, guarding, rigidity, tenderness and rebound tenderness, which can be seen in any case of peritonitis, either spontaneous or secondary.

Herein, described in this letter is "Irfan's sign" (named after the author), which in patients with acute abdomen indicates the presence of extraluminal air under the diaphragm that usually indicates perforation of a hollow viscus.

Normally, with the patient lying supine and breath held in full expiration, percussion note below the right 5th intercostal space in the mid-clavicular line is dull due to the presence of liver. However, in cases of gastrointestinal perforation due to presence of free air under the diaphragm, percussion becomes resonant. This resonant percussion note below the right 5th intercostal space in suspected cases of hollow viscus perforation suggests free air under diaphragm and is referred to as "Irfan's sign".

Irfan's sign can also be elicited in other causes of pneumoperitoneum in which air is trapped under the diaphragm such as post-laparoscopy and in patients with Chilaiditi's sign (radiographic finding of colonic interposition between the liver and the right hemi-diaphragm).

This clinical finding has so far been observed in 14 out of 16 patients presented to the emergency department of a tertiary care hospital during a period of 6 months, in whom erect chest x-rays showed free air under diaphragm and hollow viscus perforation was subsequently confirmed by laparotomy. A study with larger sample size is needed to assess the sensitivity and specificity of this sign to evaluate its effectiveness as a potential screening tool in patients with acute abdomen.

The purpose of this letter is to make the surgical community aware of this useful and effective sign which can be easily elicited in patients presenting with this life-threatening situation. It is particularly important in resource-limited

settings where an early diagnosis with the help of this sign may help an appropriate management, which will ultimately reduce mortality in patients presenting with this emergent condition.

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