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Answers to Medical Quiz

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A1. Rupture or perforation of a hollow viscus.

A2. Gastrografin (water-soluble dye study).

A3. Significant leak of contrast from the third part of the duodenum with submucosal edema or hematoma.

A4. Surgical closure of the perforation.

DISCUSSION

Duodenal injuries remain relatively rare with an incidence of 1-17% in blunt abdominal trauma and 1.7-5% in penetrating injuries[1,2]. Mortality rate is reported to be of approximately 60% and is related directly to the difficulty in early diagnosis and severity of associated injuries especially when combined with pancreatic injuries. The cause of injury is generally a direct blow to the upper abdomen.

The delay in diagnosis is due to its retroperitoneal location, neutral PH and a low bacterial count leading to no or little early chemical or bacterial retroperitonitis respectively. Early diagnosis depends on high suspicion of the condition in patients who receive a blow to the upper abdomen or lower chest. Plain abdominal X-rays may show classical signs of rupture which include retroperitoneal air and obliteration of the upper right psoas muscle shadow[3,4]. Injection of water-soluble radiological dye through NG tube to see clearly the extravasation of the dye. CT scan in combination with oral contrast is also quite accurate.

Treatment options include closure, diversion or resection procedures depending on the time of diagnosis, patient's haemodynamic status. The extent and location of the

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injury and the presence or absence of concomitant injury to the pancreas. The major complication of duodenal repair is a duodenal fistula.

REFERENCES

1.Poostizadeh A. Traumatic perforation of duodenal diverticulum. J Trauma 1997;43:370-1.

2.Shilyansky J. Diagnosis and management of duodenal injuries in children. J Pediatric Surg 1997;32:880-6.

3. Cox MR. Traumatic duodenal rupture and avulsion of the ampulla of Vater. HPB Surg 1994;7:225-9.

4.Riedl S. Effect of diagnostic imaging techniques on choice of therapy and prognosis of traumatic pancreas and duodenal injuries. Langenbecks Arch Chir 1994;379:38-43.