

index of suspicion, even when symptoms begin days after ERCP. Although the diagnosis has been made by ultrasonography, computed tomography, laparoscopy and angiography, laparotomy is often needed for diagnosis and treatment.

Injury to the spleen can occur after upper gastrointestinal endoscopy also. Significant symptoms at the time of endoscopy may be absent, and recognition of the injury and its severity are often delayed. In summary, splenic injury should be considered whenever cardiovascular instability or signs of occult hemorrhage develop following endoscopic procedures.

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References

- 1 Pannu HK, Fishman EK. Complications of endoscopic retrograde cholangiopancreatography: spectrum of abnormalities demonstrated with CT. *Radiographics* 2001; 21: 1441–53.
- 2 Ong E, Bohmler U, Wurbs D. Splenic injury as a complication of endoscopy: two case reports and a literature review. *Endoscopy* 1991; 23: 302–4.
- 3 Lewis FW, Moloo N, Stiegmann GV, Goff JS. Splenic injury complicating therapeutic upper gastrointestinal endoscopy and ERCP. *Gastrointest Endosc* 1991; 37: 632–3.

Use of a remifentanil PCA for a patient with multiple rib fractures

To the Editor:

A 48-yr-old woman, weighing 55 kg, fell off her horse and was admitted to our High Dependency Unit with fractures of L1–L3 transverse processes, fractured left second to eighth ribs and hemopneumothorax requiring a chest drain and regular chest physiotherapy.

The patient was given regular oral paracetamol 1 g six hourly and tramadol 50 mg at six hourly intervals and started on a morphine patient-controlled analgesia (PCA) pump, programmed to give 1 mg boluses with a five-minute lockout time. However, the patient complained of bad dreams, paranoia, drowsiness and nausea while using it. In view of this the morphine in the PCA was changed to remifentanil on the fourth day. A concentration of 25 µg·mL⁻¹ was prepared and administered as a PCA pump with boluses of 25 µg (approximately 0.5 µg·kg⁻¹) using a five-minute lockout time. On day six a continuous infusion of 50 µg·hr⁻¹ (approximately 1 µg·kg⁻¹·hr⁻¹) was added as a background infusion to the PCA. The patient reported feeling less nauseated, and claimed the bad dreams and paranoia had stopped. The daily mean sedation and nausea scores improved while on the remifentanil PCA.

No bradycardias or desaturations were observed in our patient. We suggest that the use of remifentanil as a PCA be considered in patients where rapid control of analgesia is required, e.g., for chest physiotherapy, and the accumulative sedative and respiratory depressant effects of longer-acting opiates are undesirable.

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TABLE Daily pain, sedation and nausea scores with morphine and then remifentanil

Day	←...Morphine...→				←... Remifentanil...→				
	1	2	3	4	5	6	7		
Mean pain score	0.2	0.65	2.38	2.33	1.38	0.777	1.05	0.83	
Mean sedation score	1	0.71	1.91	1.4	0.285	0.5	0.1	0.66	
Mean nausea score	0.2	0.222	0.21	0	0	0.08	0	not recorded	
Total analgesia used	15 mg	26 mg	25 mg	21 mg	600 µg	1010 µg	1925 µg	1200 µg	
<i>Pain score</i>					<i>Sedation score</i>				<i>Nausea score</i>
0 = no pain at rest/movement					0 = awake and alert				0 = no nausea
1 = slight pain on movement					1 = awake but drowsy				1 = mild nausea
2 = intermittent pain at rest moderate pain on movement					2 = asleep easily roused				2 = moderate nausea
3 = continuous pain at rest					3 = asleep difficult to rouse				3 = severe nausea
4 = severe pain on movement					4 = unrousable				4 = retching/vomiting