Panic at the balneotherapy room - a case of gastric rupture after bag mask ventilation

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Background

Bag mask ventilation is a safe and effective method frequently used.¹ Most common complications associated with its use are recognized fairly quickly, although not always harmless. Despite the frequent occurrence of gastric distension there are few reports of massive gastric distension causing gastric rupture and pneumoperitoneum.²

Case report

50-year-old female patient, ASA 2, 2nd/3rd degree burns in 34% of body surface caused by fire.

On the 22nd day after admission she underwent balneotherapy.

Sedoanalgesia (midazolam + fentanyl + propofol + ketamine)

Spontaneous ventilation, supplementary oxygen by nasal cannula

Desaturation
(SpO₂ 65%)

Paradoxical
respiratory
movements

Bag mask
ventilation
FiO₂ 100%

Increase in
abdominal
perimeter

Compromised
lower limb
circulation

Marked
hypotension

OT tube /
Mechanical
ventilation

Nasogastric
tube

Noradrenaline
infusion

Asymmetry of
thoracic
expansion

Left side:
diminished
respiratory
sounds

?

X-ray: left pulmonary atelectasis and pneumoperitoneum (images 1 and 2).

Emergent exploratory laparotomy: gastric laceration in an ischemic mucosa area.

The gastric laceration was surgically repaired. At the end of the procedure compartmental syndrome was resolved.

The patient was extubated on the 1st postoperative day with no complications.

Discussion

Although bag mask ventilation is a routine practice, it is associated with several complications. Gastric rupture is a rare complication of this technique.

The higher incidence of *Curling* ulcers in burned patients could have contributed to gastric rupture and this case stresses the need to consider this potentially lethal complication.

Image 1. Abdominal x-ray showing pneumoperitoneum.

Image 2. Thoracic / abdominal x-ray showing left pulmonary atelectasis.

Learning points

- ✓ Gastric rupture is a rare, but potential life-threatening complication of bag mask ventilation.
- ✓ When associated with hemodynamic instability, gastric rupture requires immediate intervention.
- ✓ We should always keep our standards of care even for minor procedures outside the operating room and be aware for complications occurrence.

1 - Gastric rupture following bag-valve-mask ventilation, *The Journal of Emergency Medicine*, Vol 22, Issue 1, Jan 2002, Pages 27–29

2 - Gastric Rupture With Tension Pneumoperitoneum: A Complication of Difficult Endotracheal Intubation, *Annals of Emergency Medicine*, Vol 30, Issue 3, Sept 1997, Pages 343–34