The Critical Post –op : Stumbles and solutions

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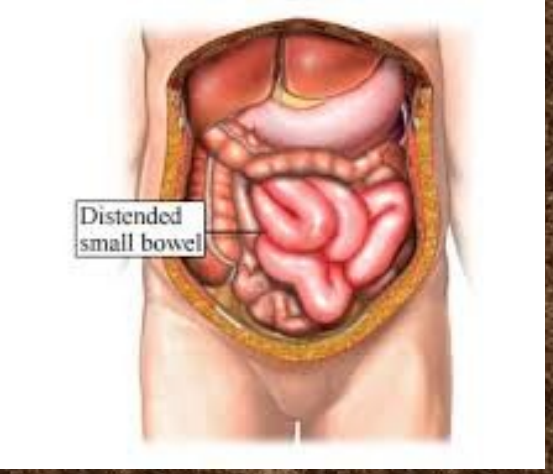
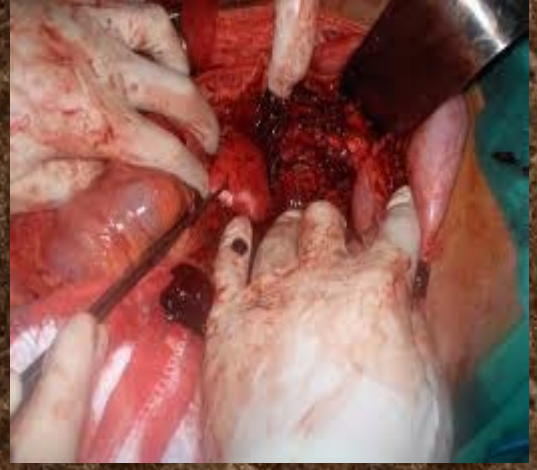
Umbrella cannot stop the rain,
But can make us stand in the rain.

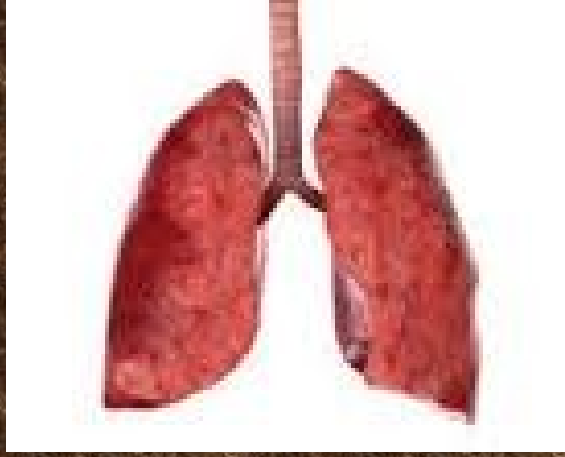
Keeping complications in mind cannot entirely prevent them, but when it happens, you can handle it right.



Bowel complications

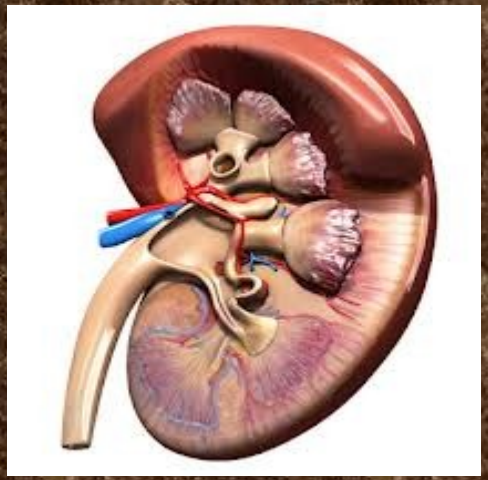


Haemorrhage and re opening

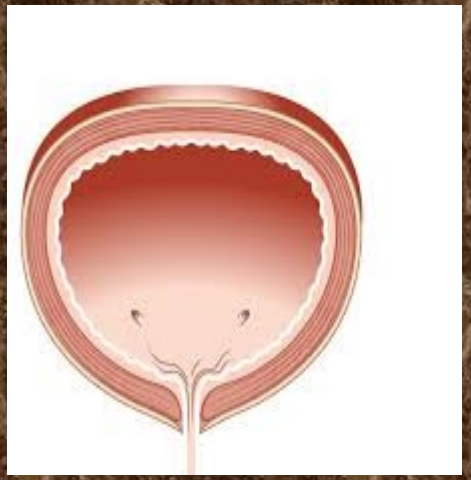


Pulmonary complications

Cardiac complications



Renal complications



Bladder and ureter

Scene I Courtesy: Dr.Aneesh Sabnis

Grade IV endometriosis: Oozing PV after LAVH: Laparoscopy:
No bleeders.
Post op: pulse varied between 80 and 90 per minute for 3 hours, after which it became 102/Min.
and BP varied between 80and 90 systolic.
5 hours later she had a cardiac arrest. She was revived and dopamine drip started.

Re-opened 3 hours later with adequate blood. Abdomen was full of clots. Bleeding points from pertoneal edges and raw areas near the Bowel were caught and tied. Extraperitonisation of raw areas were done. 4 pints of blood transfusion given,
subsequent septicemia treated, patient hale and hearty

Learning point:

In a Fit patient

Tachycardia and peripheral vaso-constriction mainain BP for a long time, Sometimes upto 12- 18 hours after surgery

Then the ability of the compensatory mechanism is exhausted.

Sudden hypo-tension, tachycardia, tachypnea,breathlessness and abdominal distension

Search for intraperitoneal bleed

Stop pointing fingers and placing blame on others.

Your life can only change to the degree that you accept responsibility for it.

Dr. Steve Maraboli

Intraperitoneal bleeding

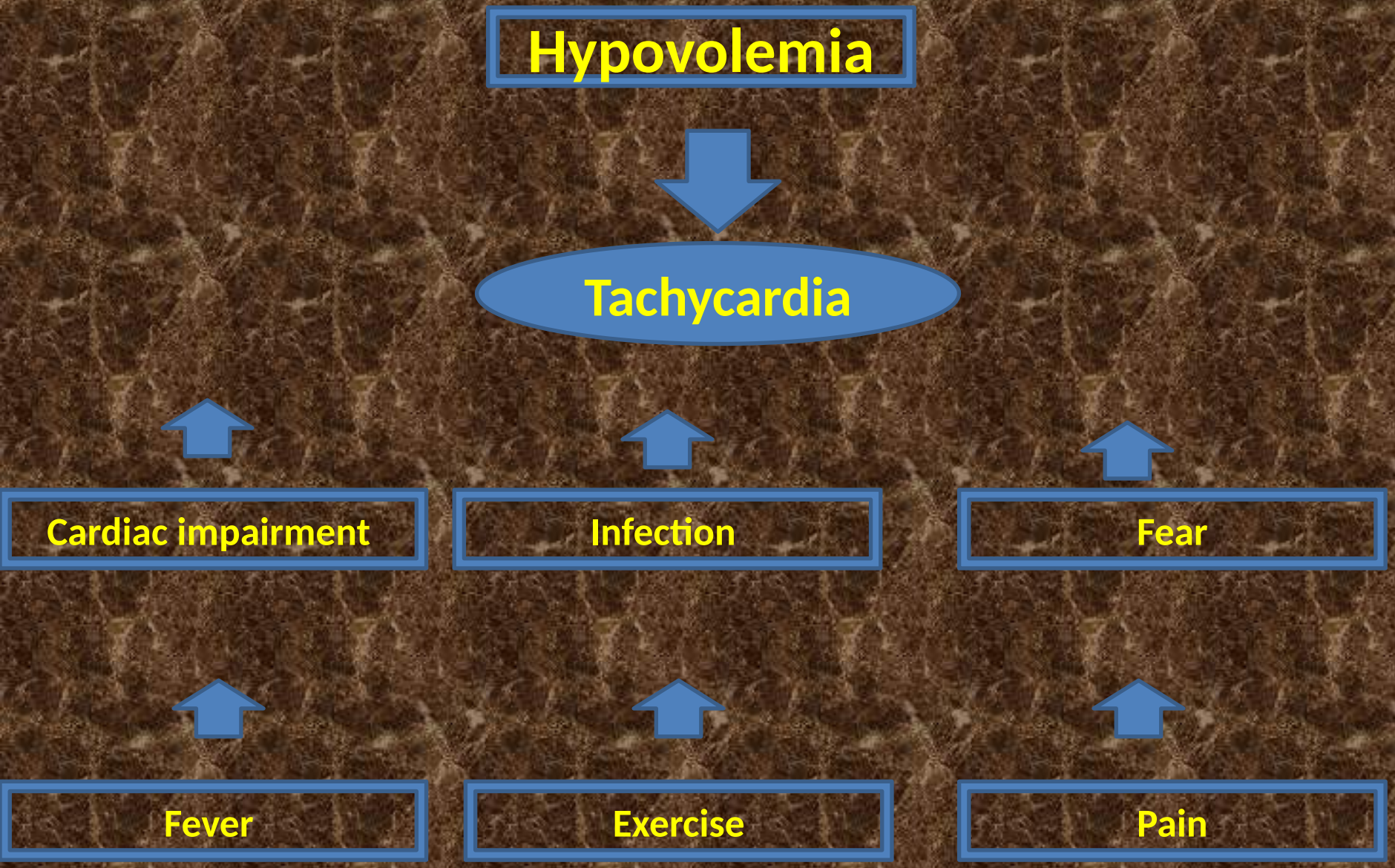
- The peritoneal cavity has an enormous capacity for occult blood loss .
- Almost **3000ml** blood (Almost 65% of blood volume) can collect with just 1cm rise in abdominal girth.
- Peritoneal signs are subtle and may be masked by incisional pain and analgesic medication.

Scene 2

- At time of LAVH, a bleeder from vagina was noticed late as it was below the speculum . It was caught and tied
- Post op, the patient continued to have tachycardia to the tune of 120/min and RR was 20/minute. BP continued to remain above 100-110 systolic, rising with blood transfusion.
- Panic button was put on wondering if there was a bleed inside.

Patient was shifted to ICU

- Bed side USG did not show much blood in pouch of douglas.
- She was observed in ICU for 2 days, treated for respiratory infection , blood transfusions given.
- RR came down, but she was discharged with a high pulse.
- 15 days later, her pulse continued to be 110/miute, though she was hale and hearty.


Hypovolemia
Tachycardia
Cardiac impairment
Infection
Fear
Fever
Exercise
Pain

Evaluation of Response to fluid resuscitation

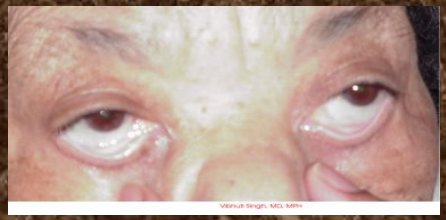
	Rapid response	Transient response	No response
Vital signs	Returns to normal	Transient improvement; recurrence of ↓ BP or ↑ heart rate	Persistent tachycardia, hypotension, altered mental status
Estimated blood loss	Minimal	Moderate and ongoing	Severe
Need for more crystalloid	Low	High	High
Blood preparation	Low	Moderate to high	Immediate
Need for operative intervention	Possibly	Likely	Very likely

Lost blood??

Losing blood??

Persistently rising pulse rate unaffected by any drug and unaccountable from any other cause

Increasing pallor



Persistent fall in systolic and diastolic BP

Air hunger

Restlessness,disorientation, syncope (?cerebral vascular anoxemia)

Shoulder pain, abdominal pain, vomiting, shock, and shifting dullness.
(? Intraperitoneal or retroperitoneal bleeding)

Ileus : ???Free fluid in peritoneal cavity with localised or generalised area of tymponites

Hb not rising in spite of blood transfusions

Ultrasonography

CT Scan

Haemorrhagic shock

Release of Inflammatory markers

Systemic Inflammatory Response syndrome

Septic shock

BP continues to remain low in spite of adequate fluid replacement

CVP shows reading 5-15; CVP does not rise with fluid infusion

Administer vasopressors

Gynaecologists face more litigation charges than anaesthetists and physicians

Dopamine

Systolic BP > 70, not rising with adequeate fluid replacement.

Dose: 3 to 10 µg/kg/min. Two ampoules of Dopamine(each ampoule contains 200 mg of the active drug in 5 ml) are added to 400 ml of normal saline and started at 8 to 10 microdrops per min.

Dopamine increases the heart rate and myocardial contractility. This improves the cardiac output.

Systolic BP is <70 in spite of fluid replacement or in cases of septic shock

Norepinephrine

Dose: 0.5 to 30 µg/min IV. 1 mg of noradrenalin in 250 ml of 5% dextrose at 3 microdrops/min. up to 45 microdrops/min.
Usually, 8 to 10 microdrops/min. may be enough.

Improved mean arterial pressure, sustained aortic and mesenteric blood flow and better tissue oxygenation

Higher proportion of blood flow redistributed to the mesenteric area,

Lower lactate levels and less infused volume.

Caution:

Myocardial ischaemia

Use of antibiotics to cover Gram negatives, Positives and anaerobes

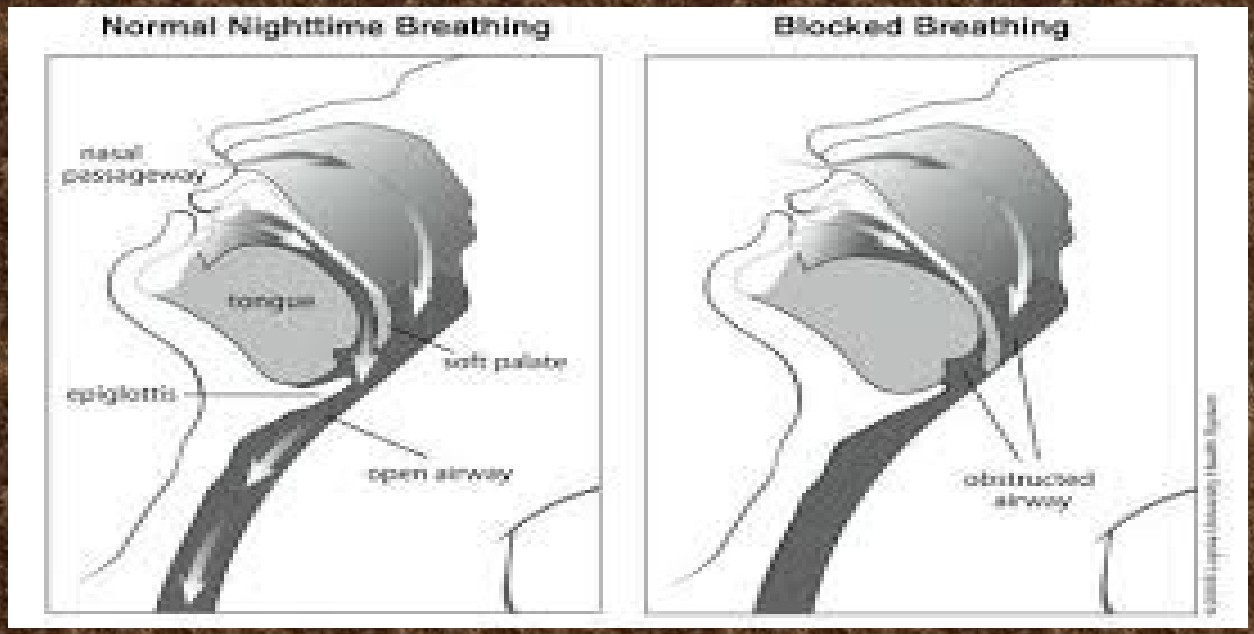
Use of bedsheets for sponging in case of hyperthermia

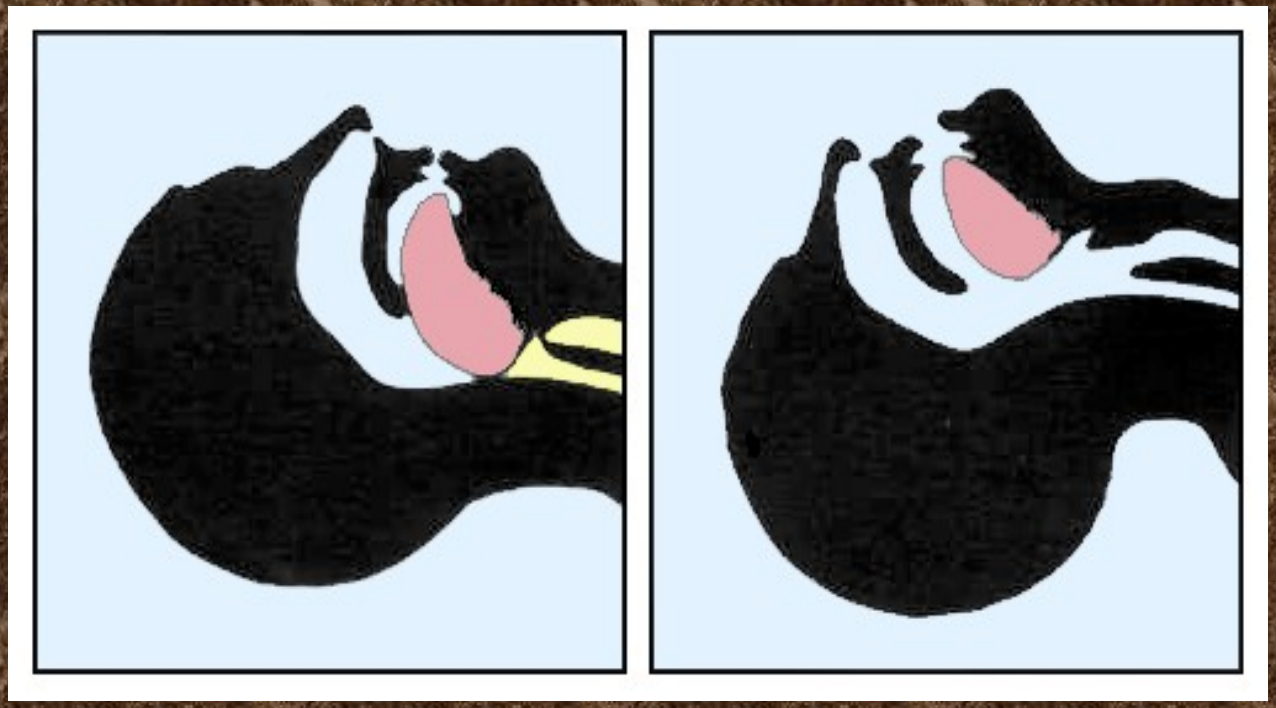
Use of Steroids

Use of Immunoglobulins

Use of FFP, Vitamin K.

Use of dialysis


Normal Nighttime Breathing
Blocked Breathing
nasal passageway
tongue
soft palate
epiglottis
open airway
obstructed airway



Year 1985.....

Patient who has been operated in the afternoon throws fits in the night

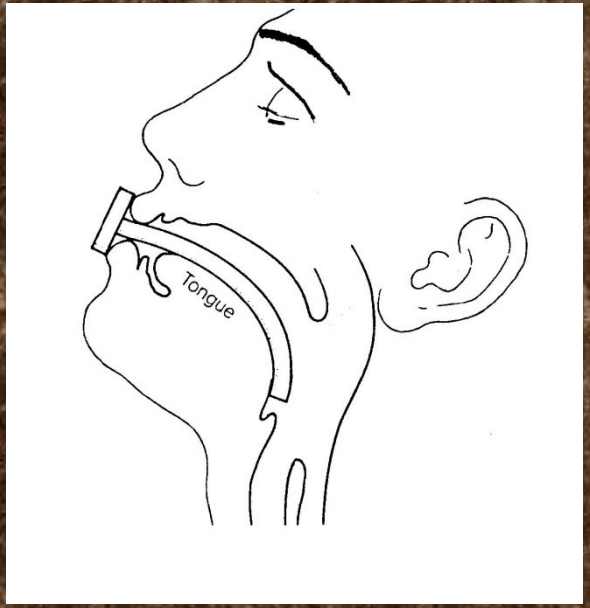
Patient had been heavily sedated

IV diazepam given to treat the convulsions

Patient dies of anoxic shock

Year 1989.....

- Patient who has been operated in the afternoon throws fits in the night
- Patient had been heavily sedated
- Airway put in .
- IV diazepam given to treat the convulsions
- Patient resuscitated



Advent of laparoscopy and good analgesics have obviated the need for sedative analgesics.

Use of pulse oximetre detects fall in SpO_2 quickly

Will the pulse oximetre always show correct readings?

A reading of 95 percent SpO2 or less could indicate hypoxia and should be investigated.

If the pulse oximeter shows no reading,it may mean that there is not adequate flow in the finger capillaries for the probe to pick up a reading.

Dyes like methylene, blue nail polish and pigments like bilirubin can affect pulse oximetry reading.

Pulse oximetry reading may be incorrect in patients with low perfusion, anemia and increased venous pulsations

External light source may also hinder correct readings.

Mrs L, a 38-year-old woman, on occasional inhaler therapy for bronchitic symptoms, underwent an uneventful laparoscopic sterilization

9 hours later

Feeling of suffocation, became breathless, swelling in neck

Crepitations in the neck

X-ray- Pneumothorax.
CT Scan: 20% of pleural cavity was involved

Chest tube in lungs.....Recovery

Preexisting lung disease | Barotrauma due to IPPV | Leakage of gas from pneumoperitoneum

Pneumothorax

Pleural and peritoneal cavities develop from one sac and the separation is effected by the formation of the diaphragm.

Improper deposition of mesoderm in the developmental stage may lead to congenital diaphragmatic-defects or congenital weak points in the diaphragm.

Gas may leak through these diaphragmatic defects when intra-abdominal pressure is raised.

Gas may also dissect retroperitoneally through natural openings in diaphragm (aortic, venacaval or esophageal) producing pneumomediastinum that can diffuse cephalad to

Bowel injury after laparoscopy

0.08% of bowel lesions occur in the hands of the best surgeon

May occur during access to peritoneum using trocar

Use of monopolar diathermy or ultrasonic shears

Division of adhesions

Manipulation with forceps

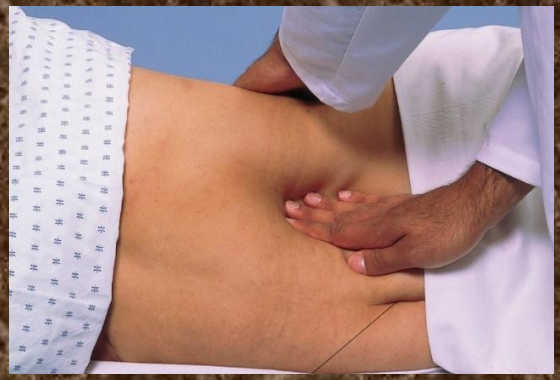
Laparoscopy may be painless and symptoms be masked and the patient may start eating, making matters worse

Laparoscopic adhesiolysis may lead to pain, and the pain caused by peritonitis may sometimes be ascribed to adhesiolysis.

Suspect a problem if :

- Abdominal pain needing opiate analgesia
- Anorexia or reluctance to drink
- Reluctance to mobilise
- Nausea/vomiting
- Tachycardia
- Abdominal tenderness
- Abdominal distension
- Poor urine output
- Cardiac arrhythmia

Abdominal tenderness may be of relatively minor degree and the classic signs of tenderness, guarding and rebound tenderness are usually absent.



The patient may well be able to get out of bed, and to take small amounts of food and drink, but will not have the vitality, mobility and appetite normally displayed by patients who have undergone an uncomplicated laparoscopic procedure.

In the **absence of clear evidence of continuing improvement further investigation is urgently** needed.

- Abdominal ultrasound is is an extremely unreliable investigation in this context.

- Gaseous distension follows peritonitis.

- Ultrasound cannot penetrate gas, and frequently grossly underestimates the amount of peritoneal fluid that is present.

- RE-Laparoscopy/Laparotomy
- CT Scan

Secondary bowel lesions occurring at necrotic or partly damaged parts of the bowel 1-3 days after the primary surgery are often recognised by sudden, extreme pain attacks and symptoms of ileus.

For secondary lesions recognised hours or days after the primary surgery, a laparotomy with careful excision and end-to-end anastomosis of the bowel is advised as safe surgery.

These lesions have to be treated by experienced abdominal surgeons with extensive lavage, bowel resection, adhesiolysis and careful placement of drains.


THANK
YOU!