

INTENSIVE CARE IN PATIENTS WITH ESOPHAGOPLASTY

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ABSTRACT. Esophagoplasty is a large operation consisting in replacing the oesophagus with portions of the digestive tube (colon, stomach, intestine thin), with two-stroke operators (abdominal and cervical), anaesthetic risk and quantify the scale Bucharest 6-7. Intensive therapy is performed on patient esophagoplasty IT department and consists of: general treatment - therapy support, prevention and treatment of complications in clinical monitoring and paraclinical; local treatment addressed surgical side - dressing wounds, monitoring drains, removal of wires. On the IT department of Municipal Hospital Arad I followed period years 2002-2007 a group of 9 male patients who were undergoing surgery for esophagoplasty of which: 5 cases for ingestion of caustic soda and 4 cases for tumours of the esophagus. The study conducted following the therapy applied to IT department of Municipal Hospital Arad we conclude that the morbidity and mortality rates were similar to literature data.

Keywords: esophagoplasty, intensive therapy, anaesthetic risk

INTRODUCTION

Esophagoplasty is a large operation consisting in replacing esophagus with portions tube tract (colon, stomach, small intestine), with two-stroke operators (abdominal and cervical) quantify anesthetic risk on Bucharest Scale (6-7) or the ASA Classification (III-IV) with an increased percentage of morbidity and mortality intra- and postoperative.

Patient undergoing surgery for esophagoplasty is a critical patient with associated pathologies, nutritional deficiencies and electrolyte imbalances and acid-base, a mental disorder.

Intensive therapy is performed on patient esophagoplasty IT department and consists of:

- general treatment: therapy, support, prevention and treatment of complications in clinical monitoring and paraclinical
- local treatment, surgical side addressed: dressing wounds, monitoring drains, removal of wires (Irwin RS, Rippe JM, 2003)

On the IT Department of Municipal Hospital in the period 2002-2007 Arad I followed a group of 9 male patients who were

undergoing surgery for esophagoplasty, in which:

- 5 cases for ingestion of caustic soda
- 4 cases for tumors of the esophagus

Monitoring of patients was made clinically and laboratory adjusting the therapy based on track parameters.

MATERIALS AND METHODS

We focused on the following parameters: blood ionogram; glycemia; balance nitrogenous; albumin; complete blood counts; weight curve; febrile curve; pain score; blood pressure; SpO₂; ECG; radiography.

Blood ionogram

- Severe electrolyte disturbances are common and result from changes in: functionality of vital organs (especially kidneys) and fluid balance affect intravascular volume, intra- and extracellular ion migration, multiple drugs.

- Loading fluid is common in critical patients is linked to the intake intraoperative, volemic resuscitation and iv administration of multiple drugs on IT department.

- Consequence of antidiuretic and antinatriuretic response to stress is often hyponatremia. Treatment aims to increase its

growth sodium and water losses, with restoration of normal levels.

- potasemia is influenced by pH. Metabolic acidosis K's out of cells, causing hyperkalemia and metabolic alkalosis produces hypokalemia. The patient with severe malnutrition has an esophagoplasty and severe hypokalemia (as 3mEq / l) and hypophosphatemia (below 0.2 mg/L). (Gutierrez G., 1992)

Glycemia

- raised blood sugar levels in the critical patient, impaired immune function and predispose to infection.

- recent studies have shown that insulin therapy strict glycemic control in critical surgical patient reduce mortality and morbidity. (Gutierrez G., 1992)

Balance nitrogenous

- achieve a positive nitrogen balance in critically patient is difficult to achieve.

- the objective is reducing nitrogen negative hole (where losses exceed intake) that occurs during metabolic stress.

- a positive balance of nitrogen (from 5 g/day) is a tissue growth of 150 g/day, about 1 kg body weight/week (Gutierrez G., 1992)

Albumin

- hypoalbuminemia in these patients is both a marker of injury as an indicator of malnutrition.

- the level of serum albumin, which reflects the presence of systemic inflammatory response is often not useful because in such cases systemic inflammatory response (SIRS) and the changes are volemic hypoalbuminemia.

- the patient with severe hypoalbuminemia (less than 2.4 g / dl) is identified with malnutrition. (Gutierrez G., 1992)

Complete blood counts

- a body weight below 85% of IBW (ideal body weight) or BMI (body mass index) below 18.5 corresponds to moderate malnutrition.

- a body weight below 75% of IBW or BMI below 16 corresponds to severe malnutrition (Gutierrez G., 1992)

Weight curve

- A number of lymphocytes $\leq 1000/\text{mm}^3$ means altering the immune response associated with protein malnutrition.

- A value of leukocytes or $\geq 4.000/\text{mm}^3$ or neutrophils increased by $\geq 10\%$ is a criterion for patient inclusion in SIRS (systemic inflammatory response syndrome).

- maintain blood counts to $\geq 30\%$ Ht values and Hb ≥ 10 g / dl. (Irwin RS, Rippe JM, 2003)

Febrile curve

- each patient received critical central temperature measurement (rectal thermistor) every 4 hours.

- patients have an increased risk of thermal variations due to decreased voluntary control of temperature, malnutrition, frequent use of sedatives, increased predisposition to infection.

- in patients with temperatures above 39°C or below 36°C , the temperature must be continuously monitored because of morbidity and mortality associated with thermal variations (Irwin R.S., Rippe J.M., 2003)

Pain score

A pain score ≥ 5 is correlated with a high rate of morbidity and mortality.

Parameters followed immediately after surgery:

- Blood pressure, preferably invasive, with MBP ≥ 60 mmHg to lower incidence of vascular compromise registry axis of rotation and which is in tension.

- SpO₂ due to increased frequency of hypoxemia in patient critical need to manage oxygen immediately after surgery, lack of visual inspection to detect mild desaturation (below 90%) continuous SpO₂ monitoring is preferred.

- continuous ECG arrhythmia detection and ST segment analysis.

- Thorax radiography for diagnosis of pneumothorax (Paulus D.A., 1981)

Nutrition occurs in three stages:

1. First stage (first 7 days) is complete digestive rest on gastrostomy feeding ban, per os and even swallowing spittle, with total parenteral nutrition with special preparations CVC parenteral nutrition providing fluid intake (25 ml/kg b.w.) and calory (30 kcal/kg b.w.) optimal.

Parenteral nutrition formulas provide the usual 1000 ml, while the special formula provides up to 1.5 kcal/ml with an additional 20% fat content and requirements of electrolytes and vitamins. (Curley F.J., Smyrnios N.A., 2003)

Preparations for parenteral nutrition



Fig. 1 Gastrostomy at patient with esophagoplasty

3. Third stage (after day 15) is a clear liquid diet orally, gradually semisolid and solid:

- nutritional support is determined by the balance between endogenous energy reserves and quantify the severity of stress markers as fever, leukocytosis, hypoalbuminaemia, negative balance of nitrogen compounds.

Antibiotherapy

- intervention by esophagoplasty antibiotics is a big operation, with time and multiple septic anastomosis.
- altemeier patient in class III, requiring a complex antibiotics to cover the intestinal flora.

Preparations of total parenteral nutrition (Nutriflex, Kabiven) we have used in these patients.

2. Second stage (day 8 until day 15) is a gastrostomy feeding on special hipercalory preparations, without waste. Using formulas macronutrients elementary special offers with low osmolarity and low in fat may reduce the extent of gastric intolerance. Contrary to preventive measures, gastric intolerance cannot be removed in all patients. Other measures, such as dilution of enteral nutrition formulas, does not help and should not be attempted. Rather, the introduction of mono or oligomere formulas low in fat administered in small amounts (20 ml/h) every 6-12 hours as they are tolerated, are a good start for enteral nutrition (Curley F.J., Smyrnios N.A., 2003).

We opted for broad spectrum antibiotics, potent (carbapenemi) or combinations of multiple antibiotics for surgical infection prevention and sepsis, but also for their treatment. (Curley F.J., Smyrnios N.A., 2003)

ANTICOAGULANT THERAPY AND MOBILIZATION

Maintaining a balance of fluid-coagulant to prevent vascular thrombosis axis rotation and the tension is achieved by administration of heparins in anticoagulant doses, preferably split heparin (Clexane I administered 1mg/kg b.w., twice/day) APTT determination was not necessary. Mobilization should started early, if possible since the day after surgery.

Postoperative Analgesia

• due to the higher surgical approach to wound laterocervical, peridural continuous postoperative analgesia techniques are difficult, requiring a thoracic approach for higher risk and side effects of respiratory and cardiovascular involvement.

• postoperative analgesia was achieved by combination of intravenous morphine analgesics and NSAIDs peridural back with analgesis or intravenous analgesia. (Mower W.R., Sachs C., Nicklin E.L. et al., 1996).

PROPHYLAXIS AND TREATMENT OF COMPLICATIONS

Prevention and treatment of complications should be instituted promptly and measures aimed at IT stated, conservative measures, surgical measures (if pleurotomy pneumothorax, drainage for festering pleurisy or laborious surgical reintervention) (Mower W.R., Sachs C., Nicklin E.L. et al., 1996).

Postoperative Complications can be:

1. immediate: pneumothorax, paresis
2. early: necrosis registry, fistulae esocolic, colocolic, cologastric, pleurisy, pneumonia sepsis, fester of wound.



Fig. 2 Fistula esocolic

CONCLUSIONS

Esophagoplasty patient requires a complex therapy under clinical and laboratory monitoring to adjust parameters and measures of nursing-intensive therapy. General treatment, therapy, support, prevention and treatment of postoperative complications is achieved by IT department. Length of

hospitalization is high, averaging 20 days, lasting for 10 days internment on IT. 6 cases had favorable postoperative evolution and 3 cases were complicated (1 event esocolic fistula which closed spontaneously, 1 perioperative death from AMI and death from severe sepsis 1). Following the therapy applied to IT department of Municipal Hospital Arad morbidity and mortality rates were similar to literature data.

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