

# SPECIFIC, PRE-SURGERY PREPARATION FOR SURGERY OF PARIETAL, VENTRAL POST-INCISION FLAWS

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**Abstract.** *It is known that post-surgery eventration comes out as a result of surgery intervention by means of a cicatrization flaw. By the time passes, such flaw increases progressively finally reaching giant sizes, some organs leaving almost totally from abdominal cavity and ending to settle themselves into the herniatic pocket. Eventrations voluminous are difficult to solve and require, most of the time, pre-surgery operations meant to specifically pre-surgery compensate the respiratory function.*

*It has to be understood that the patient showing such a flaw will have respiratory difficulties directly generated by re-introduction of organs into the abdomen, thus followed by increased abdominal pressure that makes diaphragm difficult to move, actually it being the main respiratory muscle.*

**Key-words:** *eventration, abdominal cavity, hydro-electrolitic rebalancing, respiratory dysfunction.*

## 1. Introduction

A batch of 139 operated patients were at our disposal for reasoning (132 women and 37 men), they all followed both pre-surgery preparation and post-surgery recovery. Patients belong to all social categories, their age is between 21-85 years, and part of them is showing associated illnesses.

Cure of high size eventrations represents an intervention requiring an appropriate pre-surgery preparation which depends on clinical condition, impairment of abdominal wall, complications passed through, the age and associated illnesses the patient shows at reception into the hospital.

*Pre-surgery preparation.* Patients hospitalized under emergency, showing incarcerated hernia, ruptures of diaphragm, herniation of organs into the thorax cavity, with or without necrosis, incarcerated eventrations, carry up major intensive therapy issues, especially when it comes out about hydro-electrolitic and acid-basic disorders, toxico-septic shock, respiratory and cardio-vascular disorders.

Pre-surgery preparation time has to be short considering that solving of the cause is itself a resuscitation act.

## 2. Hypothesis and objectives

Pre-surgery preparation consists of:

- electrolytic and acid-basic re-balancing;

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- maintaining of respiratory function;
- re-balancing of cardio-vascular function after evaluation of biological condition.

In case of common surgery interventions of the abdominal wall, for the subjects scheduled „on -cold”, pre-surgery preparation is not different from the routine one and consists of: clinical evaluation, functional explorations (EKG, pulmonary Rx), and laboratory tests.

Yet for the complicated cases, pre-surgery preparation also involves hydro-electrolytic re-balancing, gastro-intestinal suction and volemic rebuilding through perfusions by needle and catheters in order to find or make puncture of internal jugular or of vena sub-cava. At least 2-3 liters of solution, in one hour, is supplied to dehydrated patients showing vomiting.

In case of eventrations or giant hernia, respiratory preparation is classically recommended, for adaptation to circumstances when viscera will be re-housed into abdominal cavity, air is supplied to peritoneum into a quantity equal to the eventration volume, classical method outdated today by modern surgery methods for rebuilding without tension of abdominal wall, with mesh or skin.

General clinical condition and nutrition condition, functional respiratory condition, cardio-vascular and renal conditions of the subjects are assessed under emergency.

Pathological antecedent, cures administrated (hypotensive, cortisone, digital), allergic antecedents and anesthetic, alcohol and tobacco consumption are highly important for management of therapy and anesthesia.

Surgery intervention should not be carried within 6-12 months earlier from the

previous intervention as the collagen needs time to „mature” and, in case of infections, surgery should be delayed one year after healing because bacteria could be housed into the old cicatrix. Surgery intervention should only not be delayed in case of trailing fistulae, purulent secretions associated with foreign body granulation (suture stitch chips, mesh chips). Patient should be clinic and paraclinic investigated thus other abdominal impairments that could be solved simultaneously to be found out.

From eventral disease point of view, respiratory dysfunction involved by genesis of eventration – by increased intra-abdominal pressure and chronic stress at the abdominal wall level, - and in immediate or late post-surgery evolution, is denotive.

Success of surgery intervention highly depends on the active preparation of the patient by his surgeon.

For the 139 subjects prepared pre-surgery, ventilation tests showed:

- restrictive dysfunction (reduction of vital capacity by 20-55%), for a number of 17 patients (12,23%); causes of restriction are: obesity, pulmonary fibrosis, pulmonary emphysema.
- respiratory dysfunction, obstructive type, identified to 9 patients (6,47%), featured by reduction of 10-65% for VEMS, originated in obesity, BPCO (chronic, obstructive broncho-pneumopathy) and asthma.
- mixed ventilator dysfunction present to 19 patients (13,66%);
- lack of respiratory dysfunction, 94 patients (67,64%) - Fig. 1 and Table 1.

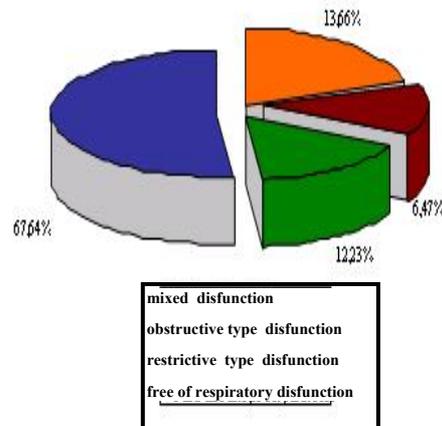


Fig. 1. *Type of respiratory dysfunctions - pre-surgery*

*Repartition of patients depending on type of respiratory restriction*

Table 1

Number of patients	Modification of respiratory parameters	Type of respiratory dysfunction
17	Decrease of CV by 20-55 %	Restrictive
9	Reduction of VEMS by 10-65%	Obstructive
19	Decrease of CV and reduction of VEMS	Mixed
94	Normal	Disfunction free

### 3. Specific, pre-surgery preparation

- Customized, for each of 45 of respiratory dysfunction patients, a pulmonary deficit recovery protocol was followed, for preparation related to surgery; the protocol consists of:
  - Control and coordination of respiratory flow;
  - Entrainment of lower thorax respiration and abdominal respiration;
  - Education of a correct respiration and its utilization during immobilization;
  - Re-building of thorax rest position;
  - Relaxation of breathe-in back-up muscularity;
  - Development of effort capability;
  - Restoration of the ratio between mechanic-receptor activities and ventilatory effort;
- Inervation of respiratory muscularity;
- Development of effort capacity by switching from clinic – to ortho-offset condition and supervised and independent walking;
- Respiratory gymnastics in order to avoid pulmonary disorders.
- The following items have been considered during the pre-surgery preparation:
  - *Settlement of a trustworthy and respect relationship between patient and his doctor*, close to the whole medical team involved in the therapeutic work, as 107 (77 %) patients fully cooperated with the medical team;

*Psychical condition of the ill-people*, during the healing process, is also as important as the medicines provided, such fact is neglected in the hospital facilities yet speculated on by most of the those practicing the so called „alternative therapies”. In the batch subject to the study, there were 16 cases (11,51%), 11 of them are not aware of their disease, and 5 of them, because of the massive parietal abdominal flaw, suffered depressions.

### 3.1. Biological preparation

Biological preparation of the Batch of patients was performed depending on clinical and para-clinical results of the investigations carried out and on the emergency of the surgery act. Clinical examination is the one that imposes or leads towards diagnosis, also stating para-clinical tests patients needs for depending on their disease, age or general condition. All the clinical results leading to surgery intervention contraindication, the ones requiring additional medical consultations, as well, were recorded and considered.

*Very important are also operatory and anesthetic antecedents*, especially when they are followed by complications, mainly infectious (virus B or C hepatitis, HIV). It was found out that, in the pre-surgery prepared Batch, there were 4 patients recorded in infectious diseases wards, with viral hepatitis virus B, and a patient with virus C hepatitis.

Mandatory, for all patients and all type of interventions, the following tests were performed:

- Imagistic investigations: EKG and pulmonary Rx;
- Para-clinic investigations:
  - Hemo-leuko-gramma;
  - Glycemia;
  - Total and fractional cholesterol;

- Kreatinine;
- Urea;
- Hepatic tests (TGP, TGO,  $\gamma$ GT);
- Sanguine group and Rh;
- Electrolytic sera ( $\text{Na}^+$ ,  $\text{K}^+$ , bicarbonate);
- Urine analysis.

Depending on complexity of the cases, pre-existing organic history, and clinical findings, additional specific investigations were performed, they lead to a protective treatment or a surrogate one during the pre-surgery

Examination of respiratory apparatus is, mainly, clinical or radiological, for the big and middle operations, and the pre-surgery imposes, for each patient, immediate actions to be taken, as follows:

- Prior cognition or finding during acceptance into the hospital – by Rx, EKG or clinic examination- of miocardic distress- made 26 patients to be subject to pre- and post surgery evaluation;
- Correction, in a parental manner, of hydro-electrolytic imbalances showed by patient with diarrhea (16 cases) and vomiting (27 patients), under control of bio-chemical constants.
- Quit smoking by prescription of mucolithical inhalants and bronho-dilatating medicines or by fizio-therapy respiration both pre- and post-surgery for those 47 smokers (33.81 %), 38 men and 9 women.
- Surgical treatment of 31 patients showing hyperglycemia type II, meaning 22.30 % out the Batch subject to study, high infectious risk and decompensation of the basis disease being well known.

### 4. Conclusions

Post-incision hernia and eventrations are

major impairments involved by multiple complications always influencing negatively life of patients, thus their solving must be a priority.

Pre-surgery preparation is a practical application for re-introduction of visceral mass into the abdomen; preparation is performed by means of respiratory gymnastics under condition of visceral content through pneumo-peritoneum.

Most of the times, the diagnosis is a clinical one yet a pre-surgery complete balance is absolutely required for a correct assessment of conditions intervention to be held, what type of intervention is indicated, as well. At the same time, condition of intra-abdominal organs can be evaluated, such allowing pre-surgery retarding of possible anomalies which could be solved at the same time with solving of parietal flaw.

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