

The specificities of transportation of critical patients in intra hospital space**M.Dvalidze, D.Dvalidze, Z.Kheladze, Zv.Kheladze, I.Strelnikov, Za.Kheladze.****Georgian Critical Care Medicine Institute. Tbilisi, Georgia.**

In intrahospital space during a transportation of critical patients side effects were depleted in 70% of cases. These are alteration of heart rhythm and arterial pressure, cardiac arrest, hypocapnia or hypercapnia and etc. Transportation-related death was not depicted. Despite transportation related problems in 1/3 cases, transportation is required because in 40-50% it allows possibility of making proper diagnoses.

Key words: Critical state, Critical medicine, Intra hospital transportation.

Actuality:

With analysis of the data from different hospitals about transport of critically ill patients in intra hospital space, we found side effects to be reported in 70%. They include: changes in cardiac rhythm, arterial hypertension or hypotension, increased intracranial pressure, arrhythmias, cardiac arrest, changes in respiratory rate, hypo- or hypercapnia, and significant hypoxemia. No deaths have been reported in relationship with patient's transport in intra hospital space. One third of reported problems were associated with technical problems. Long term worsening of respiratory function has been reported in 12 %.

Risk factors associated with patient's state are: severity of the performed procedure, mechanical ventilation and high score of severity of injury. Patient's age, duration of transportation and accompanying personal do not correlate with high rate of complications.

Transport of critically ill patients, for diagnostic evaluation changes the treatment methods in 40-50% of patients that can be assigned as positive risk. The information provided is based on the different clinical data found on web. Analysis of this review is proposed here as a table.

Background: Critically ill patients need various diagnostic procedures, which do not only include lab tests and evaluation at the bed-side. For diagnostic, differential diagnostic and treatment decision, in critical care medicine it is often needed to perform the diagnostic procedures that do not have portative analogues, so can't be performed at patient's bed-side. These are mostly CT scanning, MRI, coronary angiography, angiographic study of the brain, puncture of organs under CT guidance and etc. In these cases the patient need to be transported in intra hospital space, which is associated with high risks of complications. These complications develop in the short period of time,

when patients are inside hospital, but outside critical care unit. There are diagnostic and therapeutic procedures that cost much to patient. Intra hospital transport of critically ill patients inside the hospital is the problem of every critical care medicine doctor.

Material and methods:

Study was performed in 100 patients who were critically ill. Critical state was due to different causes. These patients mostly required CT scanning to verify the diagnosis, to determine whether operative treatment was needed or not, to determine further treatment methods, to make prognosis, because of patient's caregiver's wish and other reasons. Critical states were caused by neurologic, neurosurgical, respiratory, poliorganic, cardiologic problems, sepsis, etc. Mean age of the patients was 46-87, 41 women and 59 men. 60 patients were mechanically ventilated, oxygen dependent-35 (nasal canula 31, mask-4, 5 patients on spontaneous breathing, without respiratory problems). 64 patients head central vein in situ, 36 patients had peripheral veins. 24 patients were on vasopressors. Transport indicators: distance between Ct scanning cabinet to and from was 250meters, from these 93 meters to elevator, 137 from elevator to CT cabinet. Duration of transport was 16-20 minutes (except time of diagnostic procedure itself). Duration of diagnostic evaluation was 5 to 20 minutes (minimal time was 5 minutes, if additional or contrast study was needed, than 20 minutes). Approximately the patient was out of the CCU for 30 minutes. Before procedures informed consent was signed by patient care-givers, after informing them about the risks of transportation, about importance of diagnostic procedure, about the outcomes of complications during transport. Most of the patients were transported by critical medicine doctor (all patients on mechanical ventilation, also patients with not stabile hemodynamic state), few cases were performed by resident and nurse, also accompanied by crew from disaster medical centers. Before transport of patients in intra hospital space all of them were evaluated for vital signs (saturation, cardiac rhythm, temperature, arterial pressure, respiratory rate). The variability of these signed were evaluated during transport, after transport, and reassessed after 30 minutes from transport procedure.

During transport there were hemodynamic problems with 5 patients, which were timely fixed (all of them were mechanically ventilated and on vasopressors). Respiratory problems developed in one patient who needed sedation and analgesia, which was achieved during transportation. There were no problems with monitoring, technical problems with 2 patients (due to elevator overload), which prolonged the duration of transport with 3-7 minutes. Patients who were mechanically ventilated were transported with mechanical ventilation apparatus also other alternative mechanical ventilator

- Risk of transfer
- Distance, resources, bed availability
- Medicaments
- Equipment
- Staffing
- Confirm
- Sedation
- Transfer protocol

კრიტიკულ ავადმყოფთა ინტრაჰოსპიტალურ სივრცეში ტრანსპორტირების თავისებურებანი

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ინტრაჰოსპიტალურ სივრცეში კრიტიკულ პაციენტთა ტრანსპორტირების დროს გვერდითი მოვლენები აღწერილია შემთხვევათა 70%-ში. ესენია გულის რითმისა და არტერიული წნევის ცვლილებები, გულის გაჩერება, ჰიპოკაპნია ან ჰიპერკაპნია და სხვა. ტრანსპორტირებასთან დაკავშირებული სიკვდილიანობა არ აღნიშნულა. შემთხვევათა 1/3-ში ტრანსპორტირების დროს შექმნილი პრობლემების მიუხედავად პაციენტის ინტრაჰოსპიტალურ სივრცეში ტრანსპორტირება ხშირად აუცილებელია, რადგან ეს შემთხვევათა 40-50% იძლევა დიაგნოზის სწორად დასმის შესაძლებლობას.

გასაღები სიტყვები: კრიტიკული მდგომარეობა, კრიტიკული მედიცინა, ინტრაჰოსპიტალური ტრანსპორტირება.