

Heart and pericardium diagnostic features during mine-blast trauma

Olefir Oleksandr Stanislavovich, Zamyatin Denys Petrovich

Kharkiv National Medical University, Kharkiv

Научный(-е) руководитель(-и) – ДМ, Professor, Zamyatin Petro Mikolayovich, Kharkiv National Medical University, Kharkiv

Introduction

Mine-blast trauma of heart is considered to be the most common type of fatal injuries during peacetime and wartime. The experience of treating this kind of trauma is negligible, even in the world's leading hospitals.

Aim

To evaluate the informativeness of symptoms, instrumental and laboratory studies in patients with mine-blast injury of the heart.

Materials and methods

There were 74 patients with mine-blast trauma, to perform our tasks we used such methods as

1. Physical examination of the patients cardiovascular system:

- palpation
- percussion
- auscultation

2. Instrumental methods:

- electrocardiography

3. Laboratory methods:

- determining CK and its MB-fraction level
- determining troponin I level

Results

1. According to the information content of the clinic clinical symptoms:

- Pain in the heart - in 25.65%
- Voiceless heart tones - at 100.0%
- Systolic murmur at the apex - to 9.45%
- Pericardial rub - 5.4%
- Tachycardia - 120 bpm. 1 min. - 16.2%
- Decrease in systolic blood pressure <60 mm Hg. Art. - In 37,8-47,25%
- Decrease in pulse pressure <15 mm Hg. Art. - In 32,4-44,55%

2. ECG in patients with cardiac injury

- Changes in the T wave detected in 75, 7% of cases,
- P wave - 35.1%, the segment S-T - 35,1%,
- Arrhythmia - in 68.9% of cases.

3. It was also established that:

- Increased level of CK in patients with heart contusion was observed in 100% cases
- Increased level of MB-fraction was observed in 96.7%
- Ratio of MB-CK and total CK higher than 5% occurred in 26.7% of cases

4. The troponin I level in patients with heart contusion was increased in 100% of cases.

At the same time, we have established following graduations likelihood of heart contusion during mine-blast trauma:

- Low - with the values of I troponin less than 0.01 ng / ml in blood plasma;
- Questionable - from 0.01 to 0.04 ng / ml;
- High - in the range of more than 0.04 ng / ml

Conclusion

Experience allowed to develop support materials, which were put into practice. Graduations of cardiac contusion probability during the mine-blast trauma, according to the Troponin I level. Diagnostic scale of heart contusion during mine-blast trauma. Differential diagnosis tactics algorithm of heart contusion during mine-blast trauma.