



TECHNIQUE FOR CUTTING BIOPSY AND SURGICAL MATERIAL IN THE PRACTICE OF PATHOLOGICAL ANATOMY AND FORENSIC MEDICINE

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Summary

This article provides information about the practice of the Department of Pathological Histology of the Bureau of Pathological Anatomy and Forensic Medicine on the technique of autopsy, biopsy and histological examination of surgical materials, their fixation, dissection, staining and possible shortcomings in the workflow.

Key words: histology, fixation, autopsy, biopsy, material.

ТЕХНИКА ВЫРЕЗКИ БИОПСИЙНОГО И ОПЕРАЦИОННОГО МАТЕРИАЛА В ПРАКТИКЕ ПАТОЛОГИЧЕСКОЙ АНАТОМИИ И СУДЕБНОЙ ЭКСПЕРТИЗЫ

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Резюме

В данной статье представлена информация о практике отделения патологической гистологии Бюро патологической анатомии и судебной медицины по технике аутопсийного, биопсийного и гистологического исследования операционных материалов, их фиксации, рассечения, окрашивания и возможные недостатки в рабочем процессе.

Ключевые слова: гистология, фиксация, аутопсия, биопсия, материал.

ПАТОЛОГИК АНАТОМИЯ ВА СУД ТИББИЁТИ АМАЛИЁТИДА БИОПСИЯ ВА ОПЕРАЦИОН МАТЕРИАЛЛАРНИ КЕСИШ ТЕХНИКАСИ

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Аннотация

Ушбу мақолада патологик анатомия ва суд тиббиёти бюроси патогистология бўлими амалиётида аутопсия, биопсия ва операцион материалларни





гистологик текшириш мақсадида уларни фиксация қилиш, кесиш, бўяш усулларини техникаси ва иш жараёнида кузатилиши мумкин бўлган камчиликлар ҳақида маълумотлар келтирилган.

Калит сўзлар: гистология, фиксация, аутопсия, биопсия, материал.

Introduction

The optimal area of the tissue pieces is 2-3 cm³ and the thickness is 5-7 cm. The tissue pieces are immediately immersed in the fixative, which avoids drying. It is unacceptable to squeeze the washed fabric. After the fabric is immersed in the fixative, a label with a number or code written in pencil on photographic paper is lowered there. Marking the pieces requires tying them together with the label in a gauze bag and stringing the pieces on a thread: first, the label of 1 piece is sewn 2-3 times, then the piece itself, and so on. if the tissue is pathologically changed, then the tissue is cut out at the border with normal tissue. pieces of hollow organs are cut out so that all layers of the wall are visible.

GENERAL PRINCIPLES OF FIXING:

Fixation provides stabilization of tissue structures and their compaction. The mechanism of action of fixatives is based on coagulation and lipid stabilization. Fixation always leads to greater or lesser changes in the structure and volume of the tissue, it depends on the pH of the temperature concentration fixer, it must be neutral 10% formalin. Too long fixation leads to a significant compaction of the tissue, which makes it difficult to process.

Full fixation is provided with:

- After cutting the pieces, immediately immerse in the fixative.
- The volume of the fixative should exceed the fixing material by 20 times, since the tissue fluid changes the concentration of the fixative.
- If the color of the fixative has changed after tissue immersion, it must be changed immediately.
- Do not reuse the fixative.
- For each fixator, the set fixing time must be observed. Long-term residence of the material is possible only in 10% neutral formalin or Bouja liquid.

CAUSES OF ERRORS encountered when cutting material embedded in paraffin and their fatigue:





1) Paraffin crumbles:- too hard

- cooled slowly when filling
- low ambient temperature
- large blade angle

Elimination:

- before getting a cut, breathe on the block
- change the angle of the knife
- reload object

2) The tissue is separated from the paraffin:

- Filling was carried out with cold paraffin
- poor impregnation of the material
- traces of alcohol left during wiring

Elimination:

- refill the block beforehand to remove from alcohol.

2) The material is difficult to cut, the fabric is whitish in color, the sections are wrinkled, they do not melt well

- insufficient dehydration of the tissue.

Elimination:

- the block is melted in a thermostat and passed in 960 alcohol, then poured again according to the scheme.

4) The knife, as it were, jumps without cutting the tissue or forms transverse stripes on the cuts, overconsolidation or overdrying of the material during fixation or dehydration.

Elimination:

- Cut the material by placing a piece of ice on it, if the cuts are not obtained, then a new piece must be cut from the archive, dehydrated according to the scheme and refilled.

5) Wrinkled slices, stick to the knife, twist:

- insufficient angle of inclination of the knife
- high room temperature
- the material is embedded in low-melting paraffin

Elimination:

- change the angle of the knife
- Before cutting, place the material in the refrigerator
- refill in more refractory paraffin

6) Sections are covered with stripes and are easily torn:

- poor quality of the knife (notches)



- Paraffin contamination
- the presence of calcium salts in the tissue

Elimination:

- move the knife or change it to a well-sharpened one
- decalcify the object or use a micro-saw with special knives designed for dense fabrics, ceramics, synthetics.

7) The cut sticks to the knife (electrification)

Elimination:

- before getting a cut, you need to breathe on the block.

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