thoracic vertebrae are formed. The vertebral bodies are formed from the cranial and caudal parts of two adjacent sclerotome masses. Intersegmental arteries remain on the level of the vertebral bodies, and the spinal nerves lie between thoracic vertebrae. In the germs of 10.0-12.5 mm CRL the arches of the vertebrae move away from the bodies perpendicularly in the dorsal direction.

Thus, the formation of articular and transverse processes begin. At this early stage of the development there are no joints in the spinal column of the germs, the spinal canal forming begins. Bodies are clearly defined from the thoracic vertebrae, and in the lumbar and sacral vertebrae only arches are clearly visible and closely spaced bodies. The vertebral bodies at this stage are well differentiated. All of them have the same, primitive, quadrilateral body shape and are separated from each other by a layer of mesenchyma. The layers correspond to the future intervertebral discs.

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IDENTIFICATION OF PIERCING-CUTTING OBJECTS OF INJURY WITH SPECIFIC PARAMETERS BY MEANS OF 3D RECONSTRUCTION OF THE WOUND CHANNEL

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The majority of lethal outcomes due to piercing-cutting injuries are associated with murders. A forensic expert always faces the problem of identification of a piercing-cutting object provoking injury. Examination of a wound channel is of considerable forensic value for identification of the shape of a blade and its specific peculiarities. From the practical point of view in order to identify the mechanism of injury and the object provoking trauma in addition to traditional methods introduction of up-to-date methods of three-dimensional spatial modeling into forensic medicine today has become more relevant and essential. These methods enable to quickly and accurately digitalize all the injuries available on a crime scene and considerably assist in making more objective expert’s report. Digital technology provides storage of electron 3D models for unlimited time and in case of necessity repeated or additional investigations can be carried out. Moreover, these models can be used for presentations of digital documentary data base or demonstration of high-accuracy volumetric models of anatomical structures printed on 3D printers during sittings of the court and jury trial which pass a sentence.

In our previous researches the method of 3D-reconstruction of the wound channel formed by a piercing-cutting object with acute injury of the soft tissues and parenchymal organs was developed (Kyshkan et al., 2020). According to this method 3D modeling of the experimental wound channel was performed **(**Kyshkan et al., 2021). On the assumption of it, the issue concerning possible use of a three-dimensional spatial reconstruction of the wound channel caused by a piercing-cutting object with specific parameters to identify the instrument causing injury becomes reasonable.

To find possibilities to identify a piercing-cutting traumatic object with specific parameters by means of the use of up-to-date computer programs and methods of three-dimensional spatial reconstruction of bodily injuries in the space of graphics editor «3ds Max» on the basis of photogrammetric method.

The experimental and practical parts of our research were carried out with the use of our patented methods. Fifteen experimental wound channels were made by means of alginate impression mass with rubber-like effect «Hydrogum 5» (firm «Zhermack», Italy), which most accurately retains and reconstructs the properties of an experimental blade with a thickened tenon edge immersed into it. To make experimental injury a piercing-cutting object with specific parameters was used – a knife with one-sided sharpening of the blade and thickened tenon edge, its blade was 9.53 cm long, 2.7 cm wide in the point of its biggest thickening, and the tenon edge 0,42 cm thick. Every fragment of the wound channel was contrasted with a dye using 1% brilliant green alcohol solution. All the fragments of the wound channel were opened parallel to its length and were placed on a rotary table located in a light cube to provide adequate illumination and photos were taken. The digital camera SONY RX 10 II was used for shooting. The object of shooting was labeled with a number, a fragment of a plotting scale 1,0 cm long was placed on it to calibrate the scale and control the sizes of the object examined in computer programs.

The photos obtained in JPEG format were loaded into the computer program «Agisoft Photoscan», and 3D textured models of a wound channel fragment were created in it. The model obtained and the texture was exported in «OBJ» format. To calibrate the scale of 3D models obtained they were placed into the graphic space of «3ds max» program, which helps to reconstruct the wound channel in the graphics editor by means of 3D models of the wound channel fragments.

At first linear dimensions of injuries were measured by means of a classical method with a ruler. At different levels of immersion of a piercing-cutting object the width of the wound channel and the distance between the angles from the side of the tenon edge were accurately registered which illustrate how thick the blade is and how long separate fragments are, which in their turn reproduce the width of the blade of a sharp traumatic object. It should be noted that during examination and measuring 3D models of injuries by means of the graphics editor «3ds max» linear sizes of certain morphological parts of the wound channel were obtained with a higher accuracy to 0.001 cm, which was much higher in comparison with the classical method.

Examination of the range of depth of the wound channel obtained by means of «3ds max» program, which appeared to be 9.533 ± 0.001 cm, found the range of absolute relative deviation in this case to be 0.03. To identify a sharp traumatic tool an important diagnostic element characterizing the widest part of the blade of a piercing-cutting object and indicating the depth of immersion of the blade into the body is the inlet length of a stab injury. The inlet length in the experiment was 2.706 ± 0.0003 cm, and the range of its absolute relative deviation was 0.23%. The parameter of the inlet width illustrates the measurement of the blade thickness in its middle part in the experiment was 0.223 ± 0.001 cm. The range of its absolute relative deviation was 1.48%. The distance between the angles from the tenon side is of important identifying value to identify a traumatic sharp instrument and its thickened tenon edge. In our case illustrated the mentioned dimension is 0.422 ± 0.0003 cm with the range of absolute relative deviation of 0.52%.

The use of the three dimensional methods to identify a traumatic piercing-cutting object with specific parameters by means of 3D spatial reconstruction of the wound channel fragments provides high accuracy in solving applied tasks in modern forensic practice and criminal law science.

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THE ANATOMICAL FEATURES OF THE PAROTID GLAND STRUCTURE

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Formation of the organs is a very complicated process which is not definitively studied nowadays. It is very important to study the structure of the organs and systems in association with the basic processes of morphogenesis on the basis of the findings of embryogenesis. The study of the development and forming of the topography of the parotid gland during the prenatal period human ontogenesis is of great importance for integral understanding of the structural – functional organization of the salivary apparatus and the oral cavity on the whole. The analysis of scientific literature dealing with the parotid gland anatomy is indicative of a fragmentariness and discrepancy of the data, pertaining to the syntopy and chronology of the topographic-anatomical changes during the fetal period of human ontogenesis.

The objective of the study was to investigate variant anatomy and topographic-anatomical peculiarities of the human parotid gland and surrounding structures in fetuses.

The parotid gland was examined on 25 human fetuses, 130,0-375,0 mm of the parietal-coccygeal length (PCL). The following methods were applied in the course of the study: thing section of the parotid gland and parotid-masticatory area under the control of a binocular magnifying glass; macro- and microscopy; morphometry; computed 3-D design.

The parotid gland is found to be located in fetuses with 130,0-375,0 mm of PCL in a deep depression posteriorly the branch of the lower jaw, in the posterior mandibular fossa. A greater part