



Fig. 9. Mallory stain, 100x magnification. A section of cells with chondro differentiation

The important question is whether the created structure belongs to one or another type of cartilage tissue - hyaline, elastic or fibrous. Apparently, the formed structure in its morphological structure is closer to fibrous, since elastic fibers are quantitatively smaller than collagen fibers, they do not branch and are oriented in the same direction as collagen fibers.

It is known that blood vessels practically do not occur in mature cartilage tissue, and nutrition occurs diffusely. This is a fundamental point in the practical use of such a design, since the main problem of any three-dimensional and extended tissue-engineering transplants is the lack of an adequate vascular network and, as a result, causes central necrosis. Cartilage cells and constructions based on them are devoid of this drawback, since in natural conditions tissue is fed due to marginal zones through the perichondrium. This suggests a high survival rate of such a transplant and a positive clinical result.

4 Conclusion

As a result of studies from cells of multipotent mesenchymal cells, cells showing phenotypic signs of chondroblasts were obtained.

Using the cells obtained in this way, a three-dimensional structure of cartilage is formed. Moreover, the spatial interdependence of cells and intercellular substance in a three-dimensional structure corresponds to that observed in native cartilage

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