The method of isolation of mesenchymal stem cells from the Wharton dragons (WD) of the umbilical cord connective tissue includes obtaining WD tissue from the umbilical cord connective tissue, grinding the WD into fragments of 0.5-2.0 mm in size, placing them on the surface of a culture vial, adding complete culture medium (CCM) to it, cultivation of VD fragments in a CO2 incubator with 5% CO2 at 37 °C for 7 days, their enzymatic treatment, neutralisation of the enzyme action by adding CCM in a ratio of 1:5 to the enzyme solution, cultivation of the isolated cells in PCS in a CO2 incubator with 5% CO2 at 37 °C for 7 days, and separation of mesenchymal stem cells from the surface of the culture vial. The surface of the culture vial is pre-coated with a layer of gelatin solution with a concentration of 2 g/l. The following medium is used as a PCS: fetal calf serum - 20%, penicillin solution (10,000 units/ml) - 1%, streptomycin solution (10,000 mg/ml) - 1%, MEM alpha-modification - 78%. The enzymatic treatment is performed by incubating 1 g of VD fragments in 3-5 ml of trypsin solution with a concentration of 0.5 g/l for 5 min at 37 °C. After that, they are cultured together with the isolated cells in 3-10 ml of PBS per 1 g of VD fragments with PBS replacement every three days and removed. Mesenchymal stem cells are isolated by trypsinisation.