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PLAZMA ĆELIJE I RUSSELLOVA TELAŠCA ZUBNOG GRANULOMA (ELEKTRONMIKROSKOPSKO ISPITIVANJE)

PLASMA CELLS AND RUSSELL BODIES OF DENTAL GRANULOMA (ELECTRON-MICROSCOPIC STUDY)

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Kratak sadržaj

Na 20 uzoraka zubnih granuloma koji uglavnom potiču sa gornjih lateralnih sekutića, od pacijenata oba pola, starosti od 16 do 60 godina, urađena su ultrastrukturna istraživanja sa ciljem da se detaljnije prouči građa plazma ćelija (PC) i njihov odnos sa Russellovim telašcima (Rt). Naročita pačnja je usmerena na mesto stvaranja i lokalizaciju Rt, kao i na prelazne oblike koji postoje u njihovom "sazrevanju". Materijal je podvrgnut standardnoj tehnici obrade, a ultratanki preseci, debljine 40-60 nm, pripremljeni su na ultramikrotomu NOVA-LKB sa staklenim noževima. Kontrastiranje je izvršeno u kompjuterizovanom aparatu ULTRO-STEINER-LKB sa uranil acetatom i olovnim nitratom. Transmisiona EM urađena je na elektronskom mikroskopu BS-500. Na dobijenim preparatima i elektronmikrografijama, zapaženo je stalno prisustvo PC koje dominiraju zapaljenjem. Ove ćelije uglavnom pokazuju sličnu građu, ali je zapažen veliki broj varijacija u odnosu na organizaciju granuliranog endoplazmatskog retikuluma (gER), prisustvo ribozoma i nukleolusa, kao i na stanje jedarnog hromatina i eventualno prisustvo Rt. Utvrđeno je da se PC mogu videti u četiri morfološka tipa-oblika. Na osnovu tih oblika moguće je pratiti način stvaranja Rt. Prisustvo Rt utvrđeno je samo u jednom tipu PC i to unutar dilatovanih cisterni gER-a. Ove strukture se pokazuju kao sferična telašca različite veličine i umerene ali kompaktne i jednake elektronske gustine. Utvrđeno prisustvo četiri oblika PC ukazuje na veliki dinamizam tih ćelija, pri čemu prisutni oblici predstavljaju moguće razvojne faze Rt.

Ključne reči: *zubni granulom, plazma ćelije, Russellova telašca*

Abstract

Ultra-structural studies were made on 20 samples of dental granulomas, most frequently originating from upper lateral incisors of both male and female patients from 16 to 60 years old, aimed at a more detailed study of plasma cells (plasma cells – PCs) structure and their relation to Russell bodies (Rb). Particular attention was paid to the point of Rb generation and localization as well as to the transitional forms that exist in their "getting mature". The material was subject to the standard treatment technique and ultra-thin sections, 40 – 60 nm thick were prepared on ultra-microtome NOVA-LKB with glass cutters. Contrasting was done in a computerized apparatus ULTRO-STEINER-LKB by means of uranil-acetate and lead nitrate. Transmission EM (electronic microscopy) was performed on electronic microscope BS-500. On obtained preparations and electron-micrographs, there was noted constant presence of PCs that dominate the inflammation. These cells generally exhibit the same structure, but a great number of variations has been noted compared to the organization of the granulated endoplasmic reticulum (gER), presence of ribosome and nucleoli, as well as the state of nucleus chromatin and eventual presence of Rb. It was established that PCs may be seen in four morphological types – forms. Based on these forms it is possible to follow the manner of Rb generation. The presence of Rb was found in one PC type only, that is, inside dilated cisterns of granulated endoplasmatic reticulum (gER). These structures are shown as spherical bodies of various sizes and moderate but compact and equal electronic density. The established presence of four PC shapes indicates extraordinary dynamism of these cells, in that, the present shapes represent the possible Rb development phases.

Key words*: dental granuloma, plasma cells, Russell's bodies*