

*LYMPHSPARATION***INCREASED NUMBER AND SIZE OF  
ATYPICAL RETICULAR CELLS IN THE PALATINE TONSIL  
OF PATIENTS WITH REMOTE CANCER**

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*ABSTRACT*

*Atypical cells have been consistently found in the palatine tonsil (PT) in patients with breast, stomach, and rectal cancer, and less often with gastric polyposis, mastopathy, and soft tissue papilloma. The vast majority of the atypical cells is represented by reticular cells, which are found in smears irrespective of the tumor stage. The number and size of PT atypical reticular cells in patients with remote cancer is higher than in those with non-malignant conditions and have brightly expressed dysplasia. No atypical reticular cells were found in cytologic smears in normals or in patients with similar demographics and with oral, local, or systemic infection.*

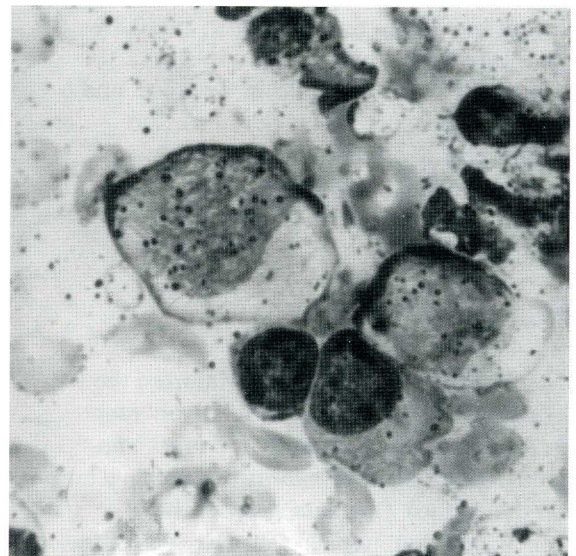
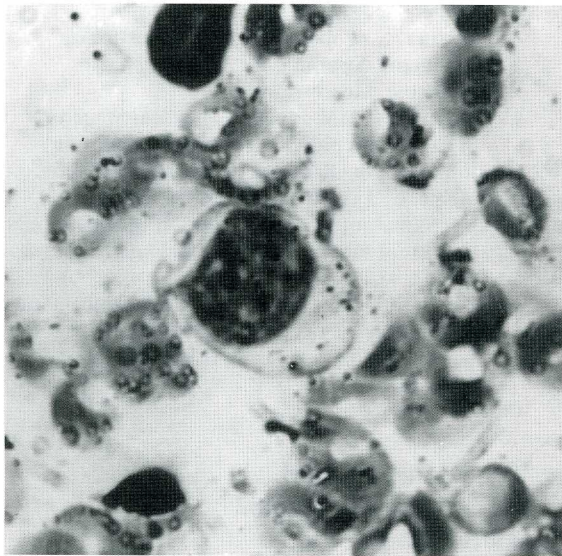
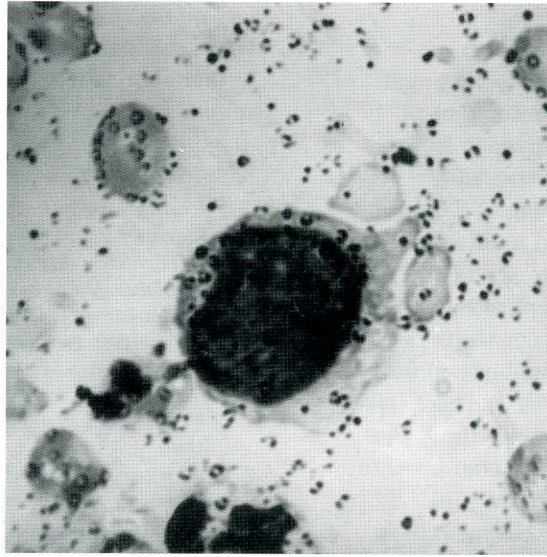
In previous studies, palatine tonsil (PT) cells were studied by light microscopy, in cytosmears of PT scrapes in rabbits and in cadavers of individuals with notable atherosclerosis and lung cancer. Significant differences in the number of certain types of PT cells were detected, whereas cytosmears of human volunteers rarely had cytologic abnormalities (1). Proliferation of reticular cells was seen in PT of patients with chronic lympholeukosis (2). Atypical reticular cells were also found in lymph nodes of patients with chronic reticulosis (3).

This study was designed to compare PT cells in patients with malignant and benign tumors at different sites with normal patients and in those with oral, local, or systemic infection.

*MATERIALS AND METHODS*

The patients (age 21 to 60 years) studied lived in Novosibirsk, Russia since birth and included both genders, smokers and non-smokers, alcoholics and volunteers within each investigated subgroup — Group 1, breast cancer (20); Group 2, stomach cancer (20); Group 3, rectal cancer (20); Group 4, gastric polyposis (22); Group 5, mastopathy (10); Group 6, soft tissue papilloma (5); Group 7, appendicitis (18); Group 8, maxillary sinusitis (4); Group 9, myocarditis (9); Group 10, hepatitis (7); Group 11, glaucoma (7); Group 12, cerebral contusion (20); Group 13, schizophrenia (70); Group 14, tonsillitis (15); Group 15, influenza rhinitis (15); Group 16, enteritis (6); Group 17, colitis (6); Group 18, opisthorchiasis (10); Group 19, giardiasis (10); Group 20, coronary artery disease (5); Group 21, normals (15). All patients were fully informed of the nature of the research and freely gave consent.

*Sampling Cells*



*Fig. 1. Atypical reticular cells of the palatine tonsil taken from a 49 year old female with gastric cancer (adenocarcinoma). Note the large size, "bubble-like" cytoplasm, eccentric nuclei. Giemsa x1200.)*

After informed consent was obtained, each patient sat with an open mouth and with the tongue protruded. A limited scrape from the medial surface of the PT (right or left) was taken using a special spatula. The specimen was transferred (as a smear) to a microscopic slide and stained by Giemsa (1). There were no complications of this procedure.

#### *Cytometry*

The number of atypical reticular cells in smears was counted in the field of vision of a light microscope and expressed as percent of the total number of 1000 cells.

## RESULTS

Side by side with the usual collection of lymphoid and reticular cells were atypical reticular cells uniformly displayed in smears of scrapes from the PT in patients with cancer (Groups 1-3), irrespective of the tumor stage. These atypical cells had a different size, shape of nucleus and cytoplasm, and intensity of staining. Most atypical reticular cells displayed light blue homogeneous abundant cytoplasm with a sinuous contour and "bubble-like" swelling (*Fig. 1*). These cells tended to coalesce or make a syncytium. The nuclei were eccentric, had a lacy contour with fissures or lobulations, and stained pink.

The number of atypical reticular cells in smears of the PT in patients in Groups 1-3 comprised  $30 \pm 2.1\%$ ; in Group 4,  $2.0 \pm 0.8\%$  and were from  $14 \mu\text{m}$  to  $32 \mu\text{m}$  in size. Atypical PT reticular cells in Groups 5 and 6 were rare, smaller in size ( $< 14 \mu\text{m}$ ), and displayed smooth borders compared with atypical reticular cells in Groups 1-4. No atypical PT reticular cells were found in Groups 7-21.

## COMMENT

Obtaining cytologic material from the PT of subjects by "scraping" is relatively easy and safe because lymphoid and other non-epithelial cells are comparatively shallow and on the surface. Our data support the conclusion that atypical reticular cells of the PT in large numbers and increased size is highly suggestive of a remote malignancy (in

less numbers – of a benign tumor) and that lymphatic tissue as depicted by the PT is immunoreactive to the presence of an occult tumor.

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