



SKIN HISTOLOGY

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***Abstract.** The skin is the largest organ of the human body, performing protective, thermoregulatory, receptor, and metabolic functions. Histologically, the skin consists of three main layers: the epidermis, dermis, and hypodermis, each with a specific structure and specific functions. The epidermis is composed of stratified squamous keratinized epithelium, the bulk of which consists of keratinocytes . The dermis is formed by dense connective tissue containing collagen and elastic fibers, blood vessels, and nerve endings. The hypodermis is composed of adipose tissue, providing thermal insulation and mechanical protection. Studying the histological structure of the skin is important for understanding the physiology and pathology of skin diseases.*

In extranodal non-Hodgkin's In endothelial lymphomas (ENHL), a single organ or tissue is primarily affected. The tumor lesion may be the only one present and dominate the clinical picture, while other lesions are minimal or appear only during progression. ENHL accounts for 24% to 48% of all lymphomas . The most common sites of ENHL are the gastrointestinal tract (GIT) (30%), the visual system (20%), and the skin (5%). Less commonly, the salivary glands, paranasal sinuses, thyroid gland, mammary gland, lungs, ovaries, uterus, bladder, and soft tissues are affected.

It is known that non-Hodgkin's Lymphomas are highly radiosensitive tumors. The role of radiation therapy (RT) for ENHL, alone or in combination with chemotherapy, has not been adequately studied.

Thus, there is little information in the literature on the role of localized electron RT; due to the complexity of the irradiation technology, very few oncology centers use total skin irradiation.

lymphoma and ocular lymphoma remains understudied , especially given advances in modern radiotherapy technology and the use of 3D planning systems for conformal irradiation. With improved diagnostics and the advent of positron emission tomography (PET), which allows not only tumor visualization but also the determination of its metabolic rate, studying the role of PET in the staging and treatment of ENHL, particularly gastric lymphoma , is becoming increasingly important.

The purpose of the study was to study the histological structure of the skin and the characteristics of its main layers.

Research objectives: To study the structure of the epidermis and its layers. To characterize keratinocytes and their role. To examine the structure of the dermis. To evaluate the role of collagen and elastic fibers. To study the blood vessels of the skin. To characterize the structure of the hypodermis. To determine the functional significance of each skin layer.

Research methods. Collection and fixation of skin tissue. Preparation of histological sections. Staining (hematoxylin and eosin, special methods for fibers). Light microscopy. Morphometric analysis. Comparative study of skin layers.

Results of the study. Local radiation therapy with electrons in patients with primary cutaneous lymphomas is an effective treatment method; complete tumor regression was noted in all patients. Total skin irradiation with electrons for generalized skin lesions in patients with primary cutaneous lymphomas , with previous chemoresistance , is effective and well tolerated. Immediately after the end of treatment, all 27 patients received an objective response in the form of a decrease or disappearance of skin lesions, and skin itching was stopped in 25 patients (92.6%). Complete remission was noted in 7 patients (26.0%), partial remission of the disease in 14 patients (51.8%), and stabilization of the process in 6 patients (22.2%).

Radiation therapy is an important component of chemoradiation treatment of patients with gastric lymphomas . Complete regression of the gastric tumor was achieved only in 58% of patients after immunochemotherapy according to the K-CHOP scheme. Radiation therapy to the stomach and perigastric lymph nodes with a total focal dose of 36 Gy results in complete tumor regression in 100% of cases. Whole-body PET with 18F-FDG is essential in patients with gastric lymphoma . Despite the absence of clinical and endoscopic signs of gastric involvement after chemotherapy, 6 of 12 patients still had foci of pathological 18F-FDG hyperfixation in the stomach projection. These foci disappeared after radiation therapy to the stomach and perigastric lymph nodes. Radiation therapy in patients with ENHL with local primary ocular involvement provides excellent immediate and long-term results and is associated with a low incidence of complications. Complete or indeterminate complete remission was achieved in all patients 12 months after RT. Late complications of radiation therapy occurred in 6 patients (25.0%), including 5 patients (20.8%) with early cataracts and 1 patient (4.2%) with dry eye syndrome. Overall and relapse-free 5-year survival rates were 100% and 95.2±4.7%, respectively. The use of conformal radiation therapy with ZB planning in patients with ENHL with primary orbital lesions allows for complete avoidance of irradiation of the intact eye.

For the first time, the efficacy of electron localized radiation therapy targeting localized skin lesions has been demonstrated in both primary patients with cutaneous lymphoma and patients after ineffective chemotherapy. A significant antitumor effect of total skin irradiation has been established in patients with generalized skin lesions after ineffective chemotherapy. In many cases, this treatment serves as salvage therapy and leads to partial or complete remission without significant late radiation complications.

External beam radiation therapy with bremsstrahlung, administered after chemotherapy in patients with gastric lymphoma, leads to complete remission in all

patients. The role of whole-body PET with 18F-FDG in the management of patients with gastric lymphoma has been determined.

Electron and photon radiation therapy have been shown to be effective in standalone treatment of lymphoma with ocular involvement and can be successfully administered to patients with localized lesions. Conformal radiation therapy (CRT) allows for the complete elimination of radiation exposure to the intact eye in cases of orbital lymphomas.

Conclusions. Patients with localized skin lesions can receive external beam electron beam therapy to the lesions in single focal doses of 2-3 Gy up to a total focal dose of 38-40 Gy. Patients with generalized skin lesions after ineffective drug or other treatment should receive total skin irradiation, depending on treatment tolerance, in a single focal dose of 1.5-2.0 Gy up to a total focal dose of 26-40 Gy. In ENHL with gastric lesions, it is advisable to irradiate the stomach and perigastric lymph nodes with bremsstrahlung using conventional fractionation or multifractionation up to a total focal dose in the absence of pathological foci after chemotherapy, if any. In patients with ENHL with localized ocular lesions, external beam radiation therapy alone is sufficient - electron or photon radiation therapy depending on the lesion location (conjunctiva, orbit) up to a total focal dose.

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