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## NATO bombings caused increase of rare head and neck tumors

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Problem of increase of head and neck malignant tumors incidence, was interesting theme in past two decades in Serbia, Montenegro, Libya, Syria, Bosnia and Herzegovina, Iraq and Northern Macedonia. In all mentioned countries this phenomenon started after NATO bombing with depleted uranium and plutonium penetrators, and medical statistics showed statistically significant increase of incidence of malignant tumors of head and neck region. Also, tumors were more aggressive and infiltrative than before, and therefore surgery had to be more radical. That was the main reason why we had massive defects who asked for one different and innovative approach to the surgical reconstruction.

Study included 767 patients in the period from 2001-2017 with different malignant tumors of head and neck region, from Serbia, BiH, Macedonia and Montenegro, who were treated by radical surgery and had massive tissue defects after surgery. Some reconstructive methods were innovative and some were modifications of well known reconstructive methods. Since all of them 767 can not be presented, we decided to present most interested cases and innovative approaches to the surgical and microsurgical approach in reconstruction of postoncosurgery defects.

The aim of the study was to determinate new reconstructive methods in surgery of different postoncosurgery defects of head and neck region.

Problem of radical approach to the surgery of this tumor were present all the time, since we had to be radical and defects that we made after surgery did not allow surgical reconstructive procedure which is the best in aesthetic point of view. Therefore necessary was best possible contact with patient and explanation of necessity of the radical treatment. Lot of times patients family had to be included in that process, but there was not even one problem in communication because of that approach to the patient.

There was problem of reconstruction after surgery of parietal region where necessary was to remove bone parts, since we usually do the reconstruction with synthetic bone and local flaps. In some patients with malignant tumors who penetrated all skin layers, necessary was craniotomy, but defects was to big to cover it by synthetic bone, since it may cause intracranial tension. Therefore we were forced to do reconstruction by different flaps and cover cranium only with soft tissue, and both ways are presented in the work.

Massive skin malignant tumors of face lot of times could not be reconstructed by Mustard flap or similar reconstructive approach. Therefore we were forced to use neck-facial big flaps and similar methods to cover postoncosurgical defects. Some of most interested cases are presented in the work.

Nasal malignant tumors that penetrated not only skin, but also cartilage, needed amputation of bigger nasal parts, sometimes even nasal semiamputation. Reconstruction only by soft tissue was not possible because of the proper nasal function. Therefore we used forehead flap for reconstruction of soft nasal tissue, and ear cartilage for reconstruction of nasal cartilage, method is presented in the work.

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Ca capitis per magna, excisio radicalis et reconstructio cum lobo thoracocervicofacialis et transplantato cutis libera



Alek J.Racic, MS, M...ent professor · You  
primarius of maxillofacial surgery, professor of...  
now · ④

melanoma reg.parietalis, excisio cum craniotomio et  
reconstructio (synthetic bone and local flaps)



Facial skin malignant tumors sometimes penetrated dipper soft tissue ares and we had cases where parotid gland was involved. Planucellular (Squamocellular) skin carcinoma is very agressive to the gland tissue and when it penetrate all chick skin layers, made malignant process in parotid gland. Therefore after radical surgery in the face, necessary was parotid gland surgery, sometimes even radical parotidectomy. Reconstruction of that defects asked for special surgical approach and is presented in the work.

Malignant tumors of upper jaw asked for radical surgical approach, lot of times with radical surgery of orbital region, included eye remove. Reconstruction of this postoncosurgical defects was not only surgical, but also prosthetic. We showed surgical part of reconstruction which was done immediate after radical surgery treatment. During this surgical reconstruction, we were focused on patients function after treatment and did surgery in that way which was the best for tissue to accept further prosthetic procedure.

Aesthetic approach in such a cases was very difficult but in our work it is presented how we did that part of surgery.

It was very difficult to show all the cases that are interested for this more than 15 years study, but we tried to present the most important differences how we did this kind of surgery before and now when we have more and more aressive head and neck tumors. Therefore new reconstructive surgical approaches are requested from time to time, if we want to have the best reconstructive surgical results for our patients.

This study clearly showed importance of permanent surgical education in different parts of the world, with health problems caused by NATO bombing, like it is in Serbia, BiH, Macedonia and Montenegro after NATO bombing with deplated uranium and plutonium penetrators. Also, this work and surgical experience that is presented, can help to all other states like Libya, Siria and Iraq, and health systems with a similar problem.