PHD THESIS

"LATEROCERVICAL MALIGNANT ADENOPATHIES AND THEIR IMPLICATIONS IN DENTISTRY"

SUMMARY

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GENERAL PART

SPECIAL PART

Key words: laterocervical malignant adenopathies, primary tumor, head and neck, cervical neck dissection, metastasis, oral cavity, reconstructive plasty.

CHAPTER I

THE TOPOGRAPHIC AND DESCRIPTIVE ANATOMY OF THE LYMPHATIC GANGLIONS OF HEAD AND NECK

I.1. GENERAL FEATURES OF LYMPHATIC VESSELS AND GANGLIONS

The lymphatic system consists of: lymphatic capillaries, lymphatic vessels, lymphatic ganglions and lymphatic trunks.

LYMPHATIC GANGLIONS are small, oval formations, located along the trajectory of the lymphatic vessels with which they are in a close relationship of functional dependence, due to the fact that their anatomic structure and conformation is influenced by their topographic situation.

From a histologic point of view, the lymphatic ganglions are covered to the exterior in a fibrous capsule from which conjunctive trabeculae go at the level of the hilum, which divide incompletely the parenchyma and penetrate together with the blood vessels the ganglions.

The lymphatic ganglion has a convex face and a hilum. The afferent vessels enter the ganglion at the level of the convex face and leave it in the area of the hilum, as a single efferent vessel.

The supporting structure of the lymphatic ganglion consists of: **capsule, conjunctive trabeculae and stroma.**

The **capsule** consists of dense, irregular connective tissue and of adipose tissue.

The **conjunctive trabeculae** delimitate the parenchyma in incomplete lobes, and the **stroma** consists of reticular tissue.

The parenchyma is represented by reticular tissue and lymphoid issue and consists of: **cortical, paracortical and medullar**.

The cortical of the lymphatic ganglion is located at the periphery, it contains lymphoid tissue organized in round-oval formations named lymphoid follicles and has T-lymphocytes in various differentiation stages.

The lymphoid follicles may be primary and secondary. The primary ones are usually darker in colour and more homogenous, while the secondary ones consist of two regions: the **mantle or peripheral region** darker in colour and **the germinative centre of the central region,** lighter in colour.

The germinative centre of the secondary follicle has, in turn, two areas: **one dark area** consisting of large-sized centroblasts, basophile cytoplasm and pale euchromatic nuclei, and **one clear area** care having centrocytes having a characteristic aspect and derived nuclei. Generally, in the lymphoid follicles of the lymphatic ganglion the B-lymphocytes predominate.

The **paracortical area** is located between the cortical and medullar and consists mainly of T-lymphocytes.

The **medullar** is located centrally in the lymphatic ganglion, it has lymphoid tissue organized as branched and anastomosed lymphatic cords that delimitate the medullar sinuses.

The circulation of blood and lymph through the ganglions

The lymph enters the ganglions in the area of the convex face via the afferent lymphatic vessels ensuring the unidirectional flow of the lymph to the sub-capsular sinus via the valves, after which the lymph passes through the cortical area at the level of the intermediate sinuses and eventually it reaches the medullar sinuses and leaves the lymphatic ganglion in the area of the hilum via the efferent vessel.

The blood circulation is achieved via the artery which enters the ganglion via the hilum, branches into capillaries and is distributed to the cells and lymphoid follicles in the medullar. The blood is taken over by the venules which gather into a unique vein which leaves, via the hilum, the lymphatic ganglion.

The functions of the lymphatic ganglion

According to **V. Papilian and Gheorghe Roşca**, the main functions of the lymphatic ganglions are:

1. Lymphopoiesis (and secondarily plasmocytogenesis and monocytopoiesis).

2. The filtration function.

3. The defence function, the phagocytosis and the elaborations of antibodies, respectively.

4. The metabolic function: the lymphatic ganglion represents a reservoir of nucleoproteins and participates to the lipid metabolism (lipopexia and lipodiuresis).

The lymph is on one hand depleted following the filtration process, as a large part of its components are retained in the area of the ganglion, respectively cells, proteins, germs, and on the other hand it is enriched due to the antibodies and lymphocytes elaborated within the ganglion.

I.2. THE LYMPHATIC GANGLIONS OF THE HEAD AND NECK

The lymphatic network of the head and throat contains the lymphatic ganglions that are located parallel to the internal jugular vein, to the accessory spinal nerve, facial artery as well as the ganglions existent in the submandibular triangle.

The classification of the cervical lymphatic ganglions, made by ROUVIERE in 1938 has been accepted for almost 40 years. The classification was made on merely anatomic criteria and for this reason its use proved itself difficult in the clinic practice.

The cervical region of an adult person describes approximately 300 lymphatic ganglions.
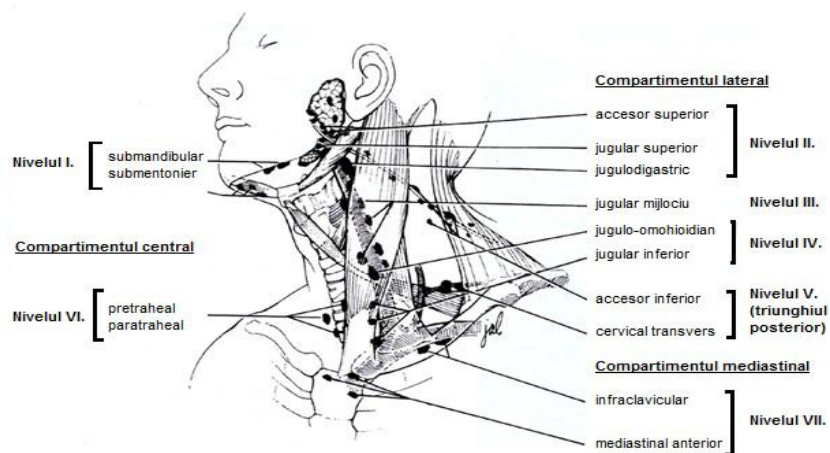
Figure 1. The lymphatic ganglions of head and neck

I. The lymphatics of the head (ring of Cuneo)

1. The occipital ganglions;

2. The mastoid ganglions;

3. The parotid ganglions;

4. The submandibular ganglions;

5. The submental ganglions;

6. The sublingual ganglions;

7. The retropharyngeal ganglions;

8. The facial ganglions;

II. The lymphatics of the neck, at the right side and left side, consists each of three chains forming two triangles (right side and left side): the triangle of ROUVIERE.

9. The anterior cervical ganglions;

10. The triangle of ROUVIERE:

   - the jugular-carotid ganglions;

- the ganglions of the spinal chain;
- the transverse cervical ganglions.

The classifications considered as being o reference with regard to the ganglionar system of the head and throat were those issued by the American Academy of ORL – Head and Neck Surgery (AAO – HNS) and the American Joint Committee In Cancer (AJCC).
Those classifications divide the cervical ganglion territories into six levels, to which some authors add a seventh level, the upper mediastinal ganglionar group, respectively, thus defining the limits of various cervical ganglionar levels.
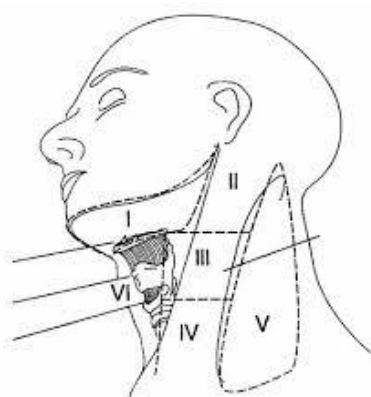
Figure 2. Classification AJCC (by AJCC Cancer Staging Manual, 2002)

Level I is represented by the ganglions of the submentonier and submandibular group, located under the hyoid bone and the digastric muscle anterior belly, under the mandible horizontal branch.

This level is under-divided into two ganglionar sub-groups:

- **level IA –submentonier group –** comprises the ganglions arranged in a triangle consisting of the anterior bellies of the digastric muscles and the hyoid bone, the ganglions located on the mylohyoid muscle, respectively.

- level IB –submandibular group - comprises the ganglions located between the two bellies of the digastric muscle and the mandible horizontal branch.

Level II is represented by the ganglions arranged around the upper part of the internal jugular vein and the upper part of the accessory spinal nerve, from the skull base to the hyoid bone.

The posterior limit of the level is represented by the posterior edge of the sternocleidomastoid muscle.

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Similarly to the level I, level II is subdivided into two subgroups, the upper jugular-carotid group and the retro-spinal group, respectively.

Level IIA or the upper jugular-carotid group is represented by the ganglions located in front of the accessory spinal nerve (XI) crossing over that area.

Level IIB or the retro-spinal group comprises the ganglions in front of the accessory spinal nerve (XI), the ganglions located in a small-sized anatomic area ,, muscular recess", located between the skull base, the sternocleidomastoid muscle and the scapula elevation muscle, respectively.

Level III is represented by the **middle jugular group** arranged around the middle third of the internal jugular vein, from the lower edge of level II to the level of the omohyoid muscle and the lower edge of the cricoid cartilage.
This level has the same anterior and posterior limits as level II does.

Level IV comprises **the ganglions around the lower third of the internal jugular vein,** from the lower edge of the level III to the clavicle.

The anterior and posterior limits are identical to those of level II and III. The medial limit separating it from level VI is represented by the medial edge of the primitive carotid artery, corresponding to the lateral edge of the prelaryngeal muscles.

Level V is described by the **ganglions located around the lower segment of the accessory spinal nerve and along the transversal cervical vessels,** in a posterior triangle delimitated by the anterior edge of the trapezius muscle, posterior edge of the sternocleidomastoid muscle and the upper edge of the clavicle.

It is subdivided into two groups:

- **level VA –posterior-superior triangle** comprises the ganglions located above the plane described by the lower edge of the cricoid cartilage.

- **level VB – the posterior-inferior triangle** described by the ganglions located beneath the plane passing past the lower edge of the cricoid cartilage.

Level VI comprises the ganglions in the prelaryngeal, pretracheal, inferior laryngeal spaces and the tracheoesophageal groove.

It stretches from the hyoid bone to the suprasternal incisura.

Level VII – the **upper mediastinal group** represented by the ganglions of the anterior-superior mediastinum and the tracheoesophageal groove [3, 20, 48, 57].

CHAPTER II

THE CLINIC AND PARA-CLINIC EXAMINATION OF A PACIENT WITH MALIGNANT CERVICAL ADENOPATHIES

II.1. THE CLINIC EXAMINATION

The first stage in conducting the clinic examination is represented by the **anamnesis** where a thorough questioning of the patient is performed in order to obtain a set of information such as: age, gender, profession, patient's origin region or country, circumstances under which the cervical adenopathy occurred as well as the age and development of the latter, but also the association of the adenopathy with general functional symptoms.

The **actual clinic examination** uses as main examination methods the inspection and the palpation, to which the auscultation may be added.

By **inspection** in the area of the cervical region we may distinguish the ganglions which are increased in size, with or without modifications of the supra-adjacent teguments such as erythema, fistulae or ulcerations.

The **palpation** provides valuable information about the features of the adenopathy and is the main method of clinic examination that may relieve a cervical adenopathy.

II.2. THE PARACLINIC EXAMINATIONS

The para-clinic investigations required in establishing a diagnostic of certainty are multiple and various and may be structured as follows:

- **surgical methods:** biopsy, exfoliative cytology;

- **methods of vital stains:** toluidine blue stain, acridine stain;

-**imagery methods**: computerized tomography (TC), X-rays, nuclear magnetic resonance (NMR), ultrasonography methods, triple endoscopy;

-**other methods**: flow cytometry, tumoral markers.

CHAPTER III

GENERAL THERAPY PRINCIPLES IN CASES OF MALIGNANT ORAL-MAXILLO-FACIAL TUMOURS

The prognostic of the tumours in the OMF region is substantially influenced by the status of the cervical ganglions, therefore the presence of the malignant cervical adenopathies determines a survival rate far lower than the patients who do not have such adenopathies.

From the point of view of the therapeutic conduct, the surgery provides perspective over the regional spread of the tumour and at the same time it represents the best therapy choice of the curative therapeutic conduct   [29, 74].

III.1. THE SURGERY CONDUCT IN CASES OF MALIGNANT TUMOURS IN THE OMF AREA

The surgical treatment as therapeutic conduct in cases of malignant cancers located in the area of head and throat takes into account the observance of the following principles:

- the surgery will be structured by several stages:

1. Removal of the primary neoplastic process until the limits of oncologic safety;

2. Reconstructive plasty of the post-surgery defect;

3. Conduct with regard to the cervical lympho-nodes.

Although the reconstruction is achieved post-surgery, the reconstruction method is chosen prior to the surgery, due to the fact that it influences the extirpation pattern.

It is preferably that the plasty be made immediately after the surgery in order to provide the patient the chance to begin the adjuvant therapy, the radiotherapy/chemotherapy, respectively, as early as possible.

-The version of achieving the tumour extirpation with negative free edges will always be primary to the excisional plasty.

III.1.1. The extirpation of the primary neoplastic process

In OMF surgery there is a major difference between the excisional and the curative principles.

The radical curative extirpation

The extirpation of the primary tumour is achieved in „mono-block" with negative free edges, respectively up to the tissue with clinically normal aspect but which may contain malignant transformations at microscopic level.

Palliative extirpation

It targets the reduction in size of the tumour, the decrease of pain and beginning of the adjuvant therapies on the purpose of improving the quality of patient's life.

III.1.2. The reconstructive plasty of the post-surgery defects in the sphere of OMF

The reconstructive plasty of the post-surgery defects resulted following the surgical treatment of the patient having malignant tumours located in the area of the head and throat has as its purpose the qualitative and quantitative restoration of the post-surgery defect, but also that the tissues be well vascularized in order to achieve a healing „per primam".

Moreover, the reconstructive plasty allows for a radical extirpation of the primary tumours, ensuring a favourable prognostic with a high rate of survival and at the same time provides a high quality of the patient post-surgery life with quick reintegration into society by reducing the functional and physiognomic disturbances [15].

The surgical plasty variants for the post-surgery defect are as follows:

- primary closure

- skin grafts

- local flaps

- pediculate flaps

- freely vascularized flaps

III.2. THE MANAGEMENT OF THE METASTATIC CERVICAL LYMPHATIC GANGLIONS

The therapeutic approach to the cervical lymphatic ganglions is various, some of the authors considering them a kind of "barrier" in front of the neoplastic cells, while others recommend their extirpation when are metastatically invaded.

The **cervical neck dissection** is an essential surgical procedure of loco-regional therapy, involving both the primary tumour and the loco-regional extension, in our case the extension being represented by a malignant cervical adenopathy (ganglions together with the

submandibular gland, superficial and middle cervical fascia, muscle, vessels, cellular-adipose tissue).

III.2.1. Cervical neck dissection techniques

The standardization of the cervical neck dissection techniques involves the existence of four main categories, respectively [50, 69, 74]:

1. Radical cervical neck dissection

2. Radical modified cervical neck dissection (sub-type I, II, III):

- sub-type I (preservation of the spinal nerve)

- sub-type II (preservation of the spinal nerve, of the internal jugular vein)

- sub-type III (preservation of the spinal nerve, of the internal jugular vein and of the sternocleidomastoid muscle).

3. The selective cervical neck dissection :

-supraomohyoid

-lateral (anterior-lateral)

-posterior-lateral

-anterior

4. The extended or selective extended radical cervical neck dissection [4].

Radical cervical neck dissection

It represents the essential therapeutic conduct for the malignant cervical adenopathies, achieving the removal to the full of the ganglionar groups at the cervical levels I – V, as well as of some non-lymphatic structures, of the spinal nerve, sternocleidomastoid muscle and internal jugular vein, respectively [31].

The modified radical cervical neck dissection

Described by Bocca in 1975, the modified radical cervical extirpation preserves one or more structures not belonging to the lymphatic system, such as the spinal nerve, the sternocleidomastoid muscle, the internal jugular vein, but at the same time removes the submandibular, submentonier, the middle, upper and lower jugular ganglions as well as the ganglions located around the lower part of the accessory spinal nerve and along the transversal cervical vessels, respectively the same ganglionar groups as in case of the radical cervical extirpation are removed.

This type of cervical neck dissection is sub-divided, according to Medina, in:

- sub-type I – consists of the preservation of the accessory nerve

- sub-type II – achieves the preservation of the accessory nerve and of the internal jugular vein

- sub-type III- achieves the preservation of the accessory nerve, of the internal jugular vein and of the sternocleidomastoid muscle.

Selective cervical neck dissection refers to the removal, depending to the typography of the primary tumoral process, only of the specifically involved ganglionar groups.

It has 4 sub-types:

1. The supraomohyoid cervical neck dissection is recommended in the neoplasms having as primary starting point the oral cavity and involves the excising strictly of the ganglionar groups I, II, III [44, 54, 73].

By contrast with the radical cervical extirpation, the cervical supraomohyoid extirpation consists of the selective „in block" removal only of the ganglionar groups containing metastases (patients having the oral cavity squamous carcinoma), of the ganglionar groups located in the area of the submental submandibular trigon (level I), as well as of the jugulodigastric and jugulo-omohyoid ganglions, but also of those in group III.

2.The lateral cervical (anterior-lateral) neck dissection is recommended in the neoplastic processes having as primary starting point the oropharynx, the hypopharynx, the larynx and targets the cervical ganglionar levels between II, III and IV[70].

3.The posterior-lateral cervical neck dissection is recommended for the neoplasms having as primary starting point the scalp of the posterior area of the head, engaging the ganglionar levels II, III, IV, V as well as the suboccipital, retro-auricular ganglions and those in the cervical trigon, the posterior limit of the extirpation being represented by the anterior edge of the trapezius muscle [65].

This surgical technique is to be practiced only when we wish to gain the loco-regional control of the tumour.

4. The anterior cervical neck dissection recommended in tumoral processes having as primary starting point the thyroid gland, referring to the extirpation of the lymphatic ganglions which engage strictly the cervical level VI (prelaryngeal and pretracheal ganglions in the thyroid area and the area of the tracheoesophageal tract), respectively the ganglions located from the hyoid bone to the sternal incisura, laterally up to the sheath of the great vessels [12].

The extended or selectively extended radical cervical neck dissection involves the additional removal of certain ganglionar groups or non-lymphatic structures that have not been included in the radical ganglionar extirpation, such as the upper mediastinal ganglions, the paratracheal ganglions.

Basically, any of the types of ganglionar neck dissection that are presented may be extended in order to include other structures.

The standardization of the cervical neck dissection techniques has as its target to maximize the therapeutic results obtained and to facilitate the reporting thereof. Each patient requires a customized therapy scheme influenced both by the location of the primary tumoral process and by the stage and location of the metastases in the lymphatic ganglions.

Due to local and removed precocious post-surgery complications generating a high percentage of morbidity, complications frequently occurred following the radical cervical extirpations, the trend of the latter decades is the practice of the selective ganglionar extirpation, representing a cervical extirpation limited strictly to the primary tumoral process as well as to the specifically involved ganglionar groups [33].

The literature also provides another classification of the cervical neck dissection techniques, made not as the preceding classification by the ganglionar groups which are to be removed and by some anatomic structures that are to be preserved, but is based on the status of the cervical lymphatic ganglions, respectively the presence or absence of the cervical adenopathy.

Therefore, by those two criteria we may distinguish two types of cervical neck dissection:

- the therapeutic cervical neck dissection;

- the prophylactic cervical neck dissection.

In case the clinical presence of the adenopathy is identified in the cervical area (N+), the therapeutic cervical neck dissection is recommended, by which the highest level of loco-regional of the clinically apparent cervical ganglionar metastases is obtained.

A part of the cervical neck dissection techniques described under the previous classification, as modified radical cervical neck dissection, the selective cervical neck dissection and the selectively extended one are techniques of therapeutic cervical neck dissection.

In cases of prophylactic cervical neck dissection, it is achieved as a prophylactic measure in patients having the statistic likelihood of occurrence of cervical metastases, the surgery being performed in the absence of the clinic cervical adenopathy.

The practice of the prophylactic cervical neck dissection determined a large amount of controversy. Besides the supporters of this technique, there are several specialists who declare that when the clinic adenopathy is absent and we face small size neoplastic processes (T1) the practice of the prophylactic cervical extirpation is not necessary.

CHAPTER IV

THE EFFECTS OF THE ADJUVANT RADIO/CHEMO- THERAPY IN THE NEOPLASTIC PROCESSES WITH ORO-MAXILLO-FACIAL LOCATION

IV.1. The effects of the radiotherapy over the oral cavity

At the oral cavity, post-irradiation, a series of mechanisms such as xerostomia, pulpal atrophy, decrease of the saliva PH and mastication difficulties generate the increase production of odontal lesions with galloping development, location at the tooth neck and having a characteristic aspect.

In those irradiated patients, a prophylaxy of those odontal lesions may be achieved by conducting local irrigations with chlorhexidine and topical applications of fluorides.

The therapy of the decays generated following the radiotherapy consists of applying obturations with composite materials or with Ag amalgam. In case we have to manage deep decays located in the immediate proximity of the pulpal chamber or deed decays with open pulpal chamber, the conduct of pulpectomy is recommended only under protection with antibiotics.

The prosthetic therapy

As far as the therapy with partial or total prostheses is concerned in patients partly or entirely irradiated, the establishing of the former is to take place only six months after the completion of the radiotherapy.

In patients who had dental draws immediately before the radiotherapy and immediately post-radiotherapy, the timing of the prosthetic therapy is indicated to be made one year from the completion of the radiation therapy in order to prevent any possible decubitus lesions or

ulcerations that may occur in the area of bone exostoses persistent following the bone remodelling phenomenon.

In order to avoid the trauma of the gingival mucosa, the encasing of the prostheses with resilient materials is achieved, or affixing supra-prosthesis over implants may be an option. The second therapeutic choice described above has a success rate of 60%.

The influences of radiotherapy over the dental extraction

The performance of the dental extraction in patients who underwent radiotherapy involves a prophylactic administration of antibiotics as well as the performance of either a flap or a marginal alveolectomy in order to ensure the closure by suture of the primary wound.

The therapeutic scheme consists of:

- administration of Amoxiciline per os one hour before the tooth draw is achieved. The administered dose is 2 grams in adults and 50 mg / kgC in children;

- administration of Clindamicine (300 mg in adults and 20 mg/kgC in children), especially to the patients allergic to β – lactamin or to those who have received β – lactamin during the last two weeks;

- prophylactic, solutions with chlorhexidine may be used for local irrigations.

IV.2. Complications generated by the radio-chemotherapy associated therapy in the neoplastic processes having oro-maxillo-facial location

By-effects of the associated adjuvant therapies may be met under the shape of acute and late reactions which differentiate depending to the cell proliferation speed.

IV.2.1. Acute reactions

1. Mucositis;

2. Xerostomia;

3. Alopecia;

4. Loss of gustative sensitivity;

5. Cutaneous reaction ;

6. Infection.

IV.2.2. Late reactions of the associated radio/chemotherapy

1. Necrosis of the soft parts ;

2. Ischemia and fibrosis;

3. Osteo-radionecrosis.

THE SPECIAL PART

I. MOTIVATION FOR THE WORK

Any neoplastic process has a negative impact over the quality of life, directly and indirectly, personally and socially, and involves a complex approach that may satisfy the personal social needs of the patient as well as of the family, and eventually an improvement in the quality of life under the new conditions be obtained.

The case management of the cancer patient should commence with identification of risk persons, an identifications followed by counselling on the purpose of improving the quality of patient's life.

The oncologic patient, in order to maintain and even improve the life quality, should benefit from a complex approach involving a combination between the standard therapy (surgery, chemotherapy, radiotherapy, immunotherapy, hormonotherapy) and the complementary one (psychotherapy, nutrition, physical exercises, naturist therapy), an approach which, besides the improvement of the somatic symptoms, should be able to achieve also an emotional and affective support.

This work targets a study of malignant laterocervical adenopathies, of setting diagnostic criteria required in accurately determining all the clinic and para-clinic aspects, of imagistic investigation as well as of the surgical and oncologic therapy, presenting the surgical techniques with their respective benefits and drawbacks.

The malignant laterocervical adenopathies raise complex issues of diagnostic, both for the BMF, ORL specialist doctor and for the general medicine doctor, due to the fact that they require an accurate knowledge and interpretation of that pathology in the context of its current development, in a direct relationship to engaging the bordering areas and its participation to the suffering of the entire ganglionar system, for the benefit of a correct therapeutic attitude.

The main purpose of this study is to follow the surgical techniques in cervical extirpation used in order to excise both the primary tumour and the loco-regional extension, the extension being, in our case, represented by a malignant cervical adenopathy, but also to aim at a post- ganglionar extirpation survival of the patients.

II. MATERIAL AND METHOD

In this work, we have reviewed a number of 84 patients with malignant laterocervical adenopathies, who received specific within the Emergency University Hospital Sibiu but also within the Clinic Polisano Sibiu. Of the 84 patients, 50 are men and 34 women.

All the patients examined within the study presented a consultation sheet each, which we have used in this work.

The examination methodology for the patients with malignant laterocervical adenopathies is of great importance, being required in establishing the illness diagnostic as well as the illness stage of development, on the purpose of compiling an efficient therapy strategy and of tracking the results.

THE CLINICAL STUDY

The clinical study involved the assessment and monitoring the patients having malignant laterocervical adenopathies hospitalized in the BMF department of the Emergency University Hospital Sibiu but also within the Clinic Polisano Sibiu during the period 01.01.2011 - 01.09.2015.

The clinical study was conducted by means of retrospective review of the pre- and post-surgery data of a lot of 84 patients with malignant laterocervical adenopathies hospitalized and treated within the BMF department of the Emergency University Hospital Sibiu but also within the Clinic Polisano Sibiu.

The algorithm of assessing a patient with cervical adenopathy had several stages: anamnesis, clinical examination of the cervical region, complementary, radiologic investigations, imagistic investigations.

In order to establish the certainty diagnostic but also in order to actually treat that pathology, we resorted to the ganglionar extirpation accompanied by the hystopathologic test of the extirpated ganglions, due to the fact that the latter guide the performance of the surgical, radio-, chemotherapy.

III. RESULTS AND DISCUSSIONS

The diagnostic of malignant laterocervical adenopathy is regarded by most of the patients as a "fatality", being historically associated to the verdict death, a verdict difficult to

embrace and accept, producing strong emotional reactions and becoming a confusing, sometimes demolishing, existential trial, requiring a complex adjustment from all points of view.

The management of nursing the patients suffering of cancer is still a very difficult field in the medical practice, a field dominated by several questions, answers, comments, ethical and moral conflicts.

Generally, the malignant neoplastic processes located in the area of the oral cavity influence in a negative way the life quality of the patient under the new conditions, due to the mutilating character of the sequelae which occur frequently post-surgery. Therefore, an early tracking of the affections of a malignant nature in the area of the oral cavity is the key elements for increasing the patient's life quality and the survival duration. By periodic dental examinations, the "opportune" identification of the debut forms, many times with oligo-symptomatic character, may take place.

The importance of an early tracking and prevention of this pathology results from the serious impact of the oral malignant neoplastic processes over the patient and relatives, due to the infirmity created by the disease or by the therapy and to the mutilating nature of the post-surgery sequelae.

The dentist doctor plays the main role in identifying the debut forms of the oral mucosa cancer and at the same time can classify the patients in risk groups, by a periodic screening of the oral cavity that may be achieved in any symptomatic or asymptomatic patient having existing risk factors.

As far as the performed study is concerned, we have reviewed a lot consisting of 84 patients, of which 50 were men (59,53%) and 34 women (40,47%)(Fig.94). The distribution by the patients' gender point to a women/men rate to the favour of the men, of 1.47/1, respectively. The data in the literature indicate a frequency 3 times higher in men than in women of the malignant neoplastic processes located in the area of the head and throat, with a tendency to balancing the percentage in the future due to an increasing number of women who smoke and who consume distilled spirits on a chronic basis.

According to the distribution by age groups of the patients, the highest frequency of the studied cases was fact-found within the range 50-59 y. o. (28,57%), followed by patients of ages between 40-49 y. o. (21,42%) and by those in the range 60-69 y. o. (20,23%). The remaining patients were classified in the range 20-29 y. o. (4,78%), 30-39 y. o. (7,14%), 70-79 y. o. (10,72%) and 80-89 y. o. (7,14%).

The age under 40 is a serious prognostic factor, even if we consider only the tumoral stage upon the diagnostic. The fact that the frequency of cancer is permanently increasing is unanimously admitted, and against this background, the cancer in the oro-maxillofacial area is no exception. Currently, there is evidence supporting an increase of the tendency of illness with cancer in the young patients (Boyle, 1990).

Over 80% of the cancers in the BMF field are identified after 55 years, due to the imperfections of the immunity system and to the multiplication in hereditary oncogenes alteration.

The gender distribution of the studied cases by age groups reveal the predominance of the males in the range 50-59 (23,81%), 60-69 (14,29%) 20-29 (3,57%) y. o. and of the females in the range 30-39 (4,76%), 40-49 (13,09%), 70-79(5,95%) as well as of the range 80-89 (4,77%) y. o. Also in the range of 20-29 years old we included the females at the rate of 1%, in the range of 30-39 y.o. males at the rate of 2.38%, within the range 40-49 y.o. males of 8,33%, in the range of 50-59 y.o. females at the rate of 4.76%, in the range of 60-69 y.o. females at the rate of 5.95%, in the range of 70-79 y.o. males at the rate of 4.76% and in the range of 80-89 y.o. males in proportion from 2,39%.

The evolution of a tumour in the OMF area is influenced by multiple factors such as the lesion shape, the histologic decree of tumour differentiation, the tumour location as well as the clinical stage.

The patients with tumours in the OMF area and with malignant laterocervical adenopathies benefit most frequently from a favourable prognostic if the tumours are differentiated and have an anterior location. In cases of tumours histologically undifferentiated, with posterior location, the prognostic is reserved, unfavourable.

The differentiation of the illness stages in the studied cases was made using the pre-therapy classification of the lesions in the area of the oral cavity (cTNM), the post-surgery histopathology classification as well as the TNMP classification.

The clinical experience supported by a large number of investigations shows that, in order to make reasonable assessments of a tumour in points of the prognostic and therapy, it is necessary to take into account both the lesion location and its degree of histologic differentiation, besides the conventional criteria of TNM.

Of all the five criteria taken into account, the most important ones in establishing the prognostic are the absence / presence of the lymph nodes (N) as well as the remote metastases (M).

Following the assessment of the five STNMP criteria, an estimation of the arithmetic values, of the variables S, T, N, M. P was performed, the sum of the figures for each type of tumour falling in the range 0-155.

A low score represents a good prognostic, a high score – an unfavourable prognostic.

For comparison sake, this classification was divided into four stages corresponding to the stages of the TNM classification, for the tumours of head and throat, namely:

- stage I = 0 – 30
- stage II = 31 – 50
- stage III = 51 – 70
- stage IV = - 71 – 155[8, 16, 29].

Therefore, using the above-described classifications, the 84 patients of the studied lot were classified in the clinical stages III (72,61 %), IV (22,63%) and II (4,76 %). The higher percentage of patients classified in the stages III and IV is notable.

As for the tumoral stage upon the diagnostic, the patients are diagnosed in most of the cases in the stages III and IV of illness, having effects both on the surgical approach and over the post-surgery mortality and of patient's life quality.

In the cases of patients in the stage II, the multimodal therapy consists of surgery followed by adjuvant therapy, radio/chemotherapy, respectively.

Generally, the attaining of the two main desiderata of the multimodal therapy, the healing of the patient and the ensuring of the life quality, respectively, are obtained in 80% of the cases for the patients in this stage of the illness.

For those patients, other diseases associated to the malignant condition as well as the development of secondary neoplastic processes are main risk factors, which may influence both the patient's survival as well as any possible relapses of the primary neoplastic process [26].

Distribution by age groups and tumour stages reveals as follows:

-for the clinic stage II, the predominance of the patients within the age ranges 50-59 (3,57%), followed by those in the range 40-49 (1,19%) y. o.;

-for the clinic stage III, the predominance of the patients within the age ranges 50-59 (21,34%), 60-69 (16,68%), followed by those within the ranges 40-49 (11,9%), 70-79 (8,34%), 80-89 (5,97%), 30-39 (5,97%) and 20-29 (2,38%) y. o. ;

-for the clinic stage IV, the predominance of the patients in the age ranges of 40-49 (8,37%), 50-59 (3,57%), 60-69 (3,57%), followed by those in the ranges 70-79 (2,38%), 20-29 (2,40%), 80-89 (1,21%) and 30-39 (1,16%) y. o. .

Distribution of the cases studied by gender and tumoral stages show a predominance of the male patients in the stage III (39,28%) and IV (16,66%) as well as of female patients only in the clinic stage II (3,57%). The rest of the patients belonging to the studied lot, males, are found in the stage II in the insignificant percentage of 1,19 % and the remaining female patients in the stage III in the percentage of 33,33% and in the stage IV in percentage of 5,97%.

As for the type of ganglionar cervical neck dissection approached within the surgery therapy of ablation of malignant laterocervical adenopathies and of primary neoplastic processes, the ones conducted mainly were the modified ganglionar laterocervical neck dissection type III (48,80%), type II (27,38%), the supra-omohyoid selective ganglionar neck dissection (16,66%) as well as the modified ganglionar laterocervical neck dissection type I (7,16%). The type of the performed extirpation was chosen in accordance to the location of the primary neoplastic process and to the adjacent structures affected by it.

Repartition depending on the type of the performed neck dissection and on the clinic stage reveal :

-for the clinic stage II the predominance of modified radical cervical neck dissection type I (2,38%) as well as of the selective supra-omohyoid one (2,38%);

-for the clinic stage III the predominance of the modified radical cervical neck dissection type III (35,72%), of the modified radical one of type II (22,61%) followed by the supra-omohyoid selective cervical neck dissection (10,71%) as well as by the modified radical neck dissection type I (3,57%);

-for the clinic stage IV, the predominance of the modified radical cervical neck dissection type III (13,10%), of the modified radical one of type II (4,77%) followed by supra-omohyoid selective cervical neck dissection (3,57%) as well as by the modified radical neck dissection type I (1,19%).

According to the distribution made by the result of the hystopathologic examination of the tested surgery pieces, we fact-find the predominance of the differentiated middle epidermoid carcinoma (27,39%), of the nonkeratinized epidermoid carcinoma (13,09%) and of the poorly differentiated one (10,71%). The remaining existing carcinoma are found in the

following prorates: muco-epidermoid carcinoma to the percentage of 10,71%, the nodular basocellular carcinoma to the percentage of 9,52%, the well-differentiated keratinized epidermoid one and the spinocellular one to the percentage of 8,34% each, and other types of carcinoma gather approximately 11,90%.

The distribution by the results of the hystopathologic test of the analysed surgery pieces and the tumoral stage is the following:

-for the clinic stage II the predominance of other types of carcinomas (2,38%), of the differentiated moderate epidermoid carcinoma and of the nodular basocellular one, both to the percentage of 1,19 %;

-for the clinic stage III, the predominance of the differentiated moderate epidermoid carcinoma (21,43%), of the nonkeratinized epidermoid one (10,71%), of other types of carcinoma (9,52%) as well as of the well differentiated epidermoid one (8,33%). The spinocelular carcinoma can be found in the percentage of 5,95%, the poorly differentiated epidermoid carcinomas as well as the nodular basocellular one occur both to a percentage of 7,14% while the muco-epidermoid carcinoma occurs only to a percentage of 2,39%;

-for the clinic stage IV the predominance of the the muco-epidermoid carcinoma (8,34%), of the differentiated moderate epidermoid carcinoma (4,76%) as well as the poorly differentiated epidermoid carcinoma(3,57%). The spinocellular carcinoma and the nonkeratinized epidermoid one occur both to the percentage of 2,38%, while the nodular basocellular carcinoma occurs only to a percentage of 1,19%.

The location of the primary tumour was: tongue (30,96%), buccal plate (22,62%), lower lip (11,90%), area of tonsils (8,33%), parotid gland (7,15%), submandibular area (4,76%), mandibular body (4,76%), retromolar trigone (2,38%), hard palate (2,38%), left laterocervical area (2,38%) and jugal mucosa (2,38%).

The distribution by the locations of the extirpated ganglions was as follows: upper jugular carotid ggl. 13,42%, right inf. carotid pol ggl. 0,67%, right facial ggl. 2,69%, supra-omohyoid ggl. 3,36%, anterior cervical ggl. 3,62%, extern jugular ggl. 3,69%, inter-digastric ggl. 4,07%, left parotid ggl. 4,36%, right parotid ggl. 0,33%, infraparotid ggl. 2,01%, middle jugular carotid ggl. 14,43%, supra-hyoid ggl. 0,67%, supraclavicular ggl. 2%, ggl. adjacent to the accessory nerve 0,33%, retro-anguloalveolar ggl. 0,33%, left sublingual ggl. 0,33%, intern jugular ggl. 0,33%, upper spinal ggl. 9,18%, lower spinal ggl. 2,68%, pretracheal ggl. 1,34%,

Kuttner ggl. 0,33%, submandibular ggl. 10,40%, level four ggl. 7,39%, level five ggl. 8,39%, left laterocervical ggl. 3,02%. Therefore, we may fact-find the predominance of the middle jugular-carotid, upper jugular-carotid, submandibular ganglions, of the ganglions of levels 4 and 5 as well as of the upper spinal ones.

As for the distribution of the studied cases by the recurrence of the primary tumour, in 20,23% of the cases we deal with recurrent primary tumours while in 79,77% of the cases we talk about malignant neoplastic processes debuting for the first time.

Post-surgery, the evolution of the patients in the lot under study was for most of the time favourable (95,24%), however there were a small number of cases (4,76%) having an unfavourable evolution generated by the immediate post-surgery complications .

In the 84 surgeries of ganglionar cervical extirpation, 298 ganglions were extirpated, of which only 35,91% displayed a metastatic engagement and the remaining 64,09% displayed no metastatic engagement, but only specific or nonspecific reactive modifications.

The distribution of the survival rate by the tumoral stage upon diagnostic indicates:
-for the clinic stage II, survival beyond three years in 2,38% of the cases, beyond 4 years in 1,19% and beyond 5 years to a percentage of 1,19% ;

-for the clinic stage III, survival under 1 year to the percentage of 3,57%, higher than 1 year in 34,53% of the cases, beyond two years in 27,38%, beyond three years in 3,57% of the cases and beyond 4 years in 3,57% of cases;

-for the clinic stage IV, survival under 1 year to a percentage of 17,86%, beyond 1 year of 3,57% of the cases, beyond two years in 1,19% of the cases.

The patients in the stages III and IV of illness have a very cautious / unfavorable prognostic and benefit from the following multimodal therapy scheme: surgery (radical) and radio-therapy. In cases of patients who can no longer be subjected to surgery, the only applicable therapy option remains the radio- or chemotherapy.

The survival rate of those patients is under 30%, and a favorable subsequent development occurs frequently in the patients in stage III.

The death is generated in most of the cases by the occurrence of secondary neoplastic processes or by the relapse of the primary neoplastic process.

Usually, in the case of the patients in stages III and IV, the adjuvant therapy is accompanied by side effects such as mucositis and xerostomia.

The survival rate depending on the type of the performed laterocervical ganglionar neck dissection is as follows:

-in cases of modified radical cervical neck dissection of type I, a survival of beyond one year is registered in 4,76%, beyond two years in 2,38%, beyond three years in 1,19% of the cases;

-in cases of modified radical cervical neck dissection of type II a survival of under 1 year is registered to a percentage of 7,15%, a survival beyond one year in 13,09%, beyond two years in 2,38%, beyond three years in 4,76% of the cases and beyond 5 years in 3,57% of the cases;

-in the case of modified radical cervical neck dissection of type III, a survival under 1 year is registered to a percentage of 11,9%, a survival beyond one year in 21,43%, beyond two years in 8,34%, beyond three years in 3,57% of the cases, beyond four years in 2,38% of the cases;

-in the case of the supra-omohyoid selective cervical neck dissection, a survival under 1 year is registered to a percentage of 2,38%, a survival beyond one year in 5,96%, beyond two years in 4,76% of the cases.

On the purpose of an early tracking of the regional relapse or of the metastases of the study patients, the latter ones were tracked via clinic examination once in 1-3 months, during the first year after the cervical extirpation surgery, in 2-4 months during the year 2, in 3-6 months during the years 3-5.

IV. CONCLUSIONS

1. The malignant ganglionar affection comprises a large pathology requiring a thorough examination clinic, paraclinic, histologic and immunohistochemical in order to obtain an efficient therapy management.

2. The algorithm of assessing a patient with malignant laterocervical adenopathies involves several stages: anamnesis, clinic examinations of the cervical area, the examination of ENT bodies, indispensable and mandatory in any cervical adenopathy, complementary examinations such as radiologic and imagistic. In order to establish the positive diagnostic, one may resort to: ganglionar puncture, ganglionar biopsy, extirpation followed by the hystopathologic examination which is the ultimate instrument in providing the certainty diagnostic. It guides the approach of the surgical treatment as well as of the adjuvant one.

3. The neoplastic location in the oro-maxillofacial area accompanied by malignant adenopathies belonged to tongue (30,96%), buccal plate (22,62%), lower lip (11,90%), area of

tonsils (8,33%), parotid gland (7,15%), submandibular area (4,76%), mandibular body (4,76%), retromolar trigone (2,38%), hard palate (2,38%), left laterocervical area (2,38%) and jugal mucosa (2,38%).

4. The ganglionar units invaded by tumours were the following ones: upper jugular carotid ggl. 13,42%, right inf. carotid pol ggl. 0,67%, right facial ggl. 2,69%, supra-omohyoid ggl. 3,36%, anterior cervical ggl. 3,62%, extern jugular ggl. 3,69%, inter-digastric ggl. 4,07%, left parotid ggl. 4,36%, right parotid ggl. 0,33%, infraparotid ggl. 2,01%, middle jugular carotid ggl. 14,43%, supra-hyoid ggl. 0,67%, supraclavicular ggl. 2%, ggl. adjacent to the accessory nerve 0,33%, retro-anguloalveolar ggl. 0,33%, left sublingual ggl. 0,33%, intern jugular ggl. 0,33%, upper spinal ggl. 9,18%, lower spinal ggl. 2,68%, pretracheal ggl. 1,34%, Kuttner ggl. 0,33%, submandibular ggl. 10,40%, level four ggl. 7,39%, level five ggl. 8,39%, left laterocervical ggl. 3,02%. Therefore, we may fact-find the predominance of the middle jugular-carotid, upper jugular-carotid, submandibular ganglions, of the ganglions of levels 4 and 5 as well as of the upper spinal ones.

5. The distribution by genders of the studied lot demonstrated the increased incidence of the malignant laterocervical adenopathies at the male gender (59,53%) in opposition to the female gender (40,47%).

6. The clinical staging revealed, for the malignant laterocervical adenopathies, that 72,61 % of the cases were diagnosed and staged in the clinic stage III, 22,63% in the clinic stage IV and 4,76 % in the clinic stage II.

7. The hystopathologic examination of the surgery pieces demonstrates the predominance of the differentiated middle epidermoid carcinoma (27,39%), of the nonkeratinized epidermoid carcinoma (13,09%) and of the poorly differentiated one (10,71%) and muco-epidermoid (10,71%).

8. The therapy of choice for the malignant laterocervical adenopathies was represented by the ganglionar neck dissection with the excision of the primary tumour followed by oncologic therapy. As far as the ganglionar neck dissection is concerned, the predilection was the modified laterocervical ganglionar neck dissection of type III(48,80%), type II(27,38%), supra-omohyoid selective ganglionar neck dissection (16,66%) and the modified laterocervical ganglionar neck dissection type I (7,16%).

9. As for the distribution of the studied cases depending on the recurrence of the primary tumour, in 20,23% of the cases we face recurrent primary tumours, while in 79,77% of the cases we speak about malignant neoplastic processes which debut for the first time.

10. Post-surgery, the evolution of the patients in the lot under study was for the larger part favourable (95,24%), however a small number of cases (4,76%) had an unfavourable development generated by immediate post-surgery complications.

11. In the 84 ganglionar cervical neck dissection surgeries, 298 ganglions were removed, of which only 35,91% presented a metastatic engagement and the remaining ones 64,09% displayed no metastatic engagement, but only specific or nonspecific reactive modifications.

12. The distribution of the survival rate by the tumoral stage upon the diagnostic moment reveals:

-for the clinic stage II, survival beyond three years in 2,38% of the cases, beyond 4 years in 1,19% and beyond 5 years to a percentage of 1,19% ;

-for the clinic stage III, survival under 1 year to the percentage of 3,57%, higher than 1 year in 34,53% of the cases, beyond two years in 27,38%, beyond three years in 3,57% of the cases and beyond 4 years in 3,57% of cases;

-for the clinic stage IV, survival under 1 year to a percentage of 17,86%, beyond 1 year of 3,57% of the cases, beyond two years in 1,19% of the cases.

13. Distribution according to the type of neck dissection performed and clinical stage, illustrates us for clinical stage II the predominance of modified radical neck dissection type I (2.38%) as well as the selective supraomohioidian neck dissection (2.38%); for clinical stage III the predominance of cervical modified radical neck dissection type III (35,72%) and modified radical neck dissection type II (22,61%) and for clinical stage IV the predominance of cervical modified radical neck dissection type III (13,1%), followed by modified radical neck dissection type II (4,77%).

14. Referring to the distribution according the results of histological examination of the operators analyzed parts and the tumoral stage, we can affirm in clinical stage II the predominance of other types of carcinomas (2.38%), in clinical stage III the predominance of epidermoid moderately differentiated carcinoma (21,43%) and nonkeratinized epidermoid carcinoma (10,71%) and in clinical stage IV the predominance of mucoepidermoid carcinoma (8,34%) followed by moderately differentiated epidermoid carcinoma (4.76%).

15. The dentists should be made aware of the importance of an early identification of the cancer in the oro-maxillofacial area, reason for which they should conduct upon the first

examination of the patient in the area of the oral cavity, among others, a preventive oncologic examination.

16. The malignant tumours in the OMF field, although having a lower prevalence than in other regions, have a high importance due to their development, therefore the early identification and treating in due time may extend the survival rate of the patients with malignant pathologies up to 80 – 90%.

17. In order to obtain a significant extension of the survival rate, in the first place a primary prevention should be achieved by the dentist including the identification of all the factors which, by chronic action, may modify the process and the rhythm of the cell divisions; the tracking of any lesion with chronic evolution; the removal of causes; adequate therapy and the directly observed therapy in order to identify any relapse.