

GANGLIONAR LATERO-CERVICAL AFFECTATION IN THE MALIGNANT ORAL PATHOLOGY DETERMINED BY HISTOPATHOLOGICAL EXAMINATION

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Abstract: 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 malignant conditions 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.

INTRODUCTION

The malignant laterocervical adenopathies raise complex issues of diagnostic, both for the Buco-Maxillofacial (BMF), Ear-Nose-Throat (ENT) 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 relation to engaging the bordering areas and its participation to the suffering of the entire ganglionic system, for the benefit of a correct therapeutic attitude.

The current gold standard for diagnosis is the histopathologic assessment of a tissue biopsy of the suspicious lesion. An accurate histopathologic diagnosis depends on the clinician doing an appropriate biopsy and providing adequate clinical information, and on the pathologist correctly interpreting the biopsy results.⁽¹⁾

MATERIALS AND METHODS

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

The clinical study involved the assessment and monitoring the patients having malignant laterocervical adenopathies during the period 01.01.2011 - 01.09.2015.

In order to establish the certainty diagnostic but also in order to actually treat that pathology, we resorted to the ganglionic extirpation accompanied by the histopathologic test of the extirpated ganglions, due to the fact that the latter provides guidance in performing surgery, radio-, chemotherapy.

RESULTS AND DISCUSSIONS

As far as the performed study is concerned, we have reviewed a group consisting of 84 patients, of whom 50 were men (59.53%) and 34 women (40.47%). The distribution by the patients' gender points to a women/men ratio in favour of 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 balance 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 within the range 50-59 years old (28.57%), followed by patients of ages between 40-49 years old (21.42%) and by those in the range 60-69 years old (20.23%). The remaining patients were classified in the range 20-29 years old (4.78%), 30-39 years old (7.14%), 70-79 years old (10.72%) and 80-89 years old (7.14%).

The age under 40 is a serious prognostic factor, although 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.

Over 80% of the cancers in the BMF field are identified after the age of 55, 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 revealed the predominance of the males in the range 50-59 (23.81%), 60-69 (14.29%) 20-29 (3.57%) years old and of the females in the range 30-39 (4.76%), 40-49 (13.09%), 70-79 (5.95%) as well as in the range 80-89 (4.77%) years old.

Also, in the range of 20-29 years old, we included the females at the rate of 1%, in the range of 30-39 years old males at the rate of 2.38%, within the range 40-49 years old males of 8.33%, in the range of 50-59 years old females at the rate of 4.76%, in the range of 60-69 years old females at the rate of 5.95%, in the range of 70-79 years old males at the rate of 4.76% and in the range of 80-89 years old males in proportion of 2.39%.

The evolution of a tumour in the oral and maxillofacial (OMF) area is influenced by multiple factors, such as the lesion shape, the histologic degree 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

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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.(2)

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.(2)

A low score represents a good prognostic, a high score – an unfavourable prognostic.(2)

For comparison, 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.(3,4,5)

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.(6)

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%) years old;
- 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%) years old;
- 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%) years old.

Distribution of the cases studied by gender and tumoral stages shows 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 group, 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 ganglionic 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 ganglionic laterocervical neck dissection type III (48.80%), type II (27.38%), the supra-omohyoid selective ganglionic neck dissection (16.66%) as well as the modified ganglionic 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 reveals the following:

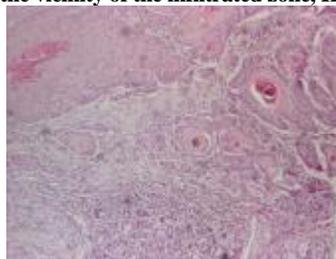
- for the clinical stage II, the predominance of modified radical cervical neck dissection type I (2.38%) as well as of the selective supra-omohyoid one (2.38%);
- for the clinical stage III, the predominance of the modified radical cervical neck dissection type III (35.72%), of the modified radical 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 clinical 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 histopathological examination of the tested surgery pieces, we found 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 were 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 gathered approximately 11.90%.

Figure no. 1. Infiltrative placards consist of atypical squamous cell, formation of keratozic pearls, with moderately differentiated aspect, He, 40 x



Figure no. 2. Corion mucosa infiltration in the form of placards made up by atypical squamous with formation of keratozic pearls. Accessory salivary glands with normal structure in the vicinity of the infiltrated zone, He, 40 x

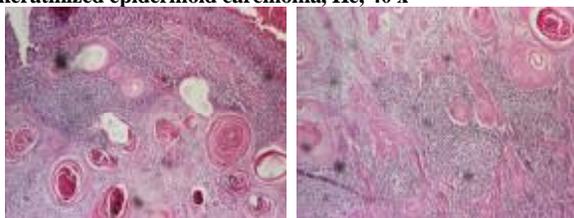


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The distribution by the results of the histopathologic test of the analysed surgery pieces and the tumoral stage is the following:

- 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 spinocellular carcinoma can be found in the percentage of 5.95%, the poorly differentiated epidermoid carcinomas as well as the nodular basocellular one occur both in 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 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 in a percentage of 2.38%, while the nodular basocellular carcinoma occurs only in a percentage of 1.19%.

Figures no. 3, 4. Lymphoid tissue with infiltration in the form of placards and cords of atypical squamous cells with formation of keratotic pearls. Lymphonodular metastasis of keratinized epidermoid carcinoma, He, 40 x



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 ganglion 13.42%, right inferior carotid pol ganglion 0.67%, right facial ganglion 2.69%, supra-omohyoid ganglion 3.36%, anterior cervical ganglion 3.62%, extern jugular ganglion 3.69%, inter-digastric ganglion 4.07%, left parotid ganglion 4.36%, right parotid ganglion 0.33%, infraparotid ganglion 2.01%, middle jugular carotid ganglion 14.43%, supra-hyoid ganglion 0.67%, supraclavicular ganglion 2%, ganglion adjacent to the accessory nerve 0.33%, retro-anguloalveolar ganglion 0.33%, left sublingual ganglion 0.33%, intern jugular ganglion 0.33%, upper spinal ganglion 9.18%, lower spinal ganglion 2.68%, pretracheal ganglion 1.34%, Kuttner ganglion 0.33%, submandibular ganglion 10.40%, level four ganglion 7.39%, level five ganglion 8.39%, left laterocervical ganglion 3.02%. Therefore, we note 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 study group 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 ganglionic 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 clinical stage II, survival beyond three years in 2.38% of the cases, beyond 4 years in 1.19% and beyond 5 years in a percentage of 1.19%;
- for the clinical stage III, survival under 1 year in a 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 clinical stage IV, survival under 1 year in 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/unfavourable 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 favourable subsequent development occurs frequently in the patients in stage III. 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 ganglionic 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 in 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 in 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 in 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.

The diagnosis 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.(7)

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

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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.(8)

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.(8)

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.

CONCLUSIONS

1. The malignant ganglionic 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: ganglionic puncture, ganglionic biopsy, extirpation followed by the histopathologic 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 dentists should be made aware of the importance of an early identification of the cancer in the oromaxillofacial 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.

4. 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%.

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