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SCIENTIFIC VECTOR OF VARIOUS SPHERE' DEVELOPMENT: REALITY AND FUTURE TRENDS

held on April 14th, 2023 by

NGO European Scientific Platform (Vinnytsia, Ukraine)
LLC International Centre Corporate Management (Vienna, Austria)

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№ **26**  April, 2023
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ASSESSMENT OF VOICE FUNCTION AND THE IMPACT OF VOICE DISORDERS ON THE QUALITY OF LIFE IN PATIENTS WITH LARYNX CANCER AFTER SURGICAL TREATMENT

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Actuality: In Ukraine, according to the 2020 cancer registry, the incidence of laryngeal cancer is 5.2 per 100,000 population (the world standard rate is 3.3). The total number of cases of the disease in 2020 is 1845. Among them, 1763 persons are men, 82 - are women. [1] 39-42% of patients have tumor, which of the corresponds $T_{1-2} N_0 M_0$, and require organ-keeping surgical treatment.[2,3] Postoperative period accompanies voice disorders because of inflammatory changes in tissues of larynx and defect in the glottal gap. [4]

Against the background of a significant number of studies devoted to diagnosis, specificity treatment of laryngeal cancer, much less attention is paid to study issues disorders of voice function. It is known that voice production after surgical treatment is carried out by the vibration of the vocal cord of the healthy side and the hypertrophied vestibular cord in the postsurgical area. [5]

Since the consequences of surgical intervention are almost always accompanied by voice function disorders and then the questions about the need for voice rehabilitation of patients with laryngeal cancer $T_{1-2} N_0 M_0$ in the postoperative period become actually.

Objective: 1) to assess the state of voice function in patients with laryngeal cancer $T_{1-2} N_0 M_0$ in postoperative period; 2) to determine the impact of voice problems on the quality of life of patients with laryngeal cancer $T_{1-2} N_0 M_0$.

Materials and methods: It was examined 22 patients with laryngeal cancer $T_{1-2} N_0 M_0$ in the ENT clinic of ZSMFU in 2022-2023. Among them there were 21 men (95,5%), 1 woman (4,5%). The age of the patients varied from 47 to 64 years. The average age was $56,7 \pm 5,4$.

81,82% (n=18) had surgical treatment – chordectomy, 18,18% (n=4) – hemilaryngectomy. The diagnosis of laryngeal cancer was confirmed

morphologically. 77.3% (n=17) of patients were diagnosed with squamous cell carcinoma. It was revealed the degree of histological differentiation of tumors, 68.2% (n=15) were found to have squamous cell carcinoma of an average degree of differentiation (G2).

Voice evaluation was carried out by measurement the time of maximum phonation (TMF), perceptual assessment of the voice due to the GRBAS scale were carried out. The assessment of the mental impact of voice disorders on the quality of life was conducted according to the Voice Handicap Index (VHI). Statistical data processing was carried out in the Statistics program.

Results: It was found that time of maximum phonation time was reduced to $8,42 \pm 0,51$.

Perceptual assessment of the voice according to the GRBAS scale show the increase voice strength indicator G (grade): II degree (moderate) – 10 (45,5%), III degree (severe) – 12 (54,5%). Increase R (roughness): II – 12 (54,5%), III – 10 (45,5%). B (breathiness): I (light) – 11 (50%), II – 11 (50%). A (asthenia): I – 10 (45,5%), II – 12 (54,5%). S (strain): I – 11 (50%), II – 11 (50%).

According to the results of the Voice Handicap Index questionnaire, of patients 18,18% (n=4) had a medium degree of severity and of patients (n=18) had a severe degree of severity; the functional (F – functional) indicator was $21,9 \pm 5,37$ points; physical (P – physical) $28,18 \pm 1,86$ points; emotional (E – emotional) $18,54 \pm 8,11$ points. The average total number was $68,63 \pm 11,98$ points, which correspond of severy impact disorders to the quality life. The most pronounced was physical indicator.

Conclusions: Assesment of the voice revealed that TMF was decrease, the most pronounced changes in the perceptual assessment of the voice were in the indicators of grade (G) and roughness (R) in patients with laryngeal cancer. According to the results of the Voice Handicap Index questionnaire the total number of points corresponds to the severe degree of severity, which indicates a significant impact of voice disorders on the quality of life.

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