

Current progress in laser therapy on malignant tumors of the head and facial regions

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Different kinds of lasers have been used clinically in the treatment of various diseases in more than 2000 cases in recent years. We have successfully developed a new CO₂ laser scalpel and a CO₂ laser tumor vaporization set and used these CO₂ laser sets in the clinical practice to excise or to vaporize malignant tumors in the head and facial regions. Besides, N₂ laser radiation has been also used on cancerous regions achieving the degeneration and disappearance of the tumors.

In cases of malignant tumor in the nasal cavity excised by a CO₂ laser scalpel we found after the observation of 5 years, survived 9/11 cases, recurrent 1/11 and fatal 1/11 cases. In advance cases of maxillary sinus cancers after maxillectomy by a CO₂ laser set we found that, during the observation of 5 years, survived for 6 months 4/10, survived over 1 year 2/10, survived over 2 years 2/10 and survived over 4-5 year 1/10 case. Two cases with aruricular squamous cell carcinoma were found to be in sound health 5 years after exision.

Another 83 cases of the head and facial malignant tumor were treated with a CO₂ laser tumor vaporization set. 38 out of the 83 cases were squamous cell carcinoma, 16 basal cell carcinoma, 13 melanoma, 7 adenocarcinoma, 4 sarcoma, 3 undifferentiated carcinoma, 1 myxoepidermoid carcinoma and 1 malignant papilloma. Among these 83 cases, 57 cases were treated by using CO₂ laser tumor vaporization after we had failed with conventional treatments (operation, radiation, chemotherapy), and the remainder 26 cases, although could be treated by conventional methods, we used CO₂ laser tumor vaporization as the initial treatment.

The results of the 57 cases, by using CO₂ laser vaporization after failure in conventional treatments are as follows

	Over 3 years	2-3 years	1-2 years	within 1 year	Total
Survival	8/13	9/13	15/18	13/13	45/57
Recurrence	3/13	2/13	2/18	3/13	10/57
Mortal	5/13	4/13	3/18	0/13	12/57

The results of the 26 cases, by using CO₂ laser vaporization as the initial treatment are as follows

	Over 3 years	2-3 years	1-2 years	within 1 year	Total
Survival	5/5	1/1	16/16	4/4	26/26
Recurrence	2/5	0/1	2/16	3/4	7/26
Mortal	0/5	0/1	0/16	0/4	0/26

Two cases of advanced maxillary sinus cancers who had had Co⁶⁰ radiation and maxillectomy met with recurrence. After treated with local N₂ laser radiation we found that the cancer had completely disappeared. This effect had been proved both in vivo and

in vitro by animal inoculation, histological examination either by a microscope or by an electronic microscope as well as tissue culture that N_2 laser radiation can inhibit or eliminate cancer cells.

We find that the use of a laser in the treatment of malignant tumors would be a most promising method.

激光治疗头面部恶性肿瘤的进展

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近年来临床应用不同激光治疗各种病人 2000 余例。同时研究了 CO_2 激光刀及 CO_2 激光肿瘤气化装置, 对头面部恶性肿瘤作 CO_2 激光刀切除和气化治疗。并且还用 N_2 激光作肿瘤局部照射治疗, 均获得较满意的疗效。

CO_2 激光刀切除治疗鼻腔恶性肿瘤, 随访 5 年以上, 生存期 9/11, 复发 1/11, 死亡 1/11。对较晚期上颌窦癌, 因病变已不同程度地超出上颌窦腔, 作全上颌骨切除的病例, 5 年以上随访, 生存期六个月以内 4/10, 1 年以内 2/10, 2 年以内 2/10, 4~5 年 1/10。耳廓鳞状上皮细胞癌 2 例, 切除后经 5 年的随访发现均获得良好疗效。

CO_2 激光气化治疗 83 例各种头面部恶性肿瘤, 其中鳞状细胞癌 $38/83$, 腺癌 $7/83$, 恶性黑色素瘤 $13/83$, 基底细胞癌 $16/83$, 肉瘤 $4/83$, 未分化癌 $3/83$, 粘液表皮样癌 $1/83$, 乳头状癌 $1/83$ 。这些病例中, 因晚期临床不适于手术、放疗和化疗而给予肿瘤气化治疗者为 57 例; 虽可用常规疗法, 但给予气化治疗者为 26 例。

表 1 57 例曾使用过常规疗法无效而用肿瘤气化治疗其结果为

	3 年以上	2~3 年	1~2 年	1 年以内	总计
生存数	8/13	9/13	15/18	13/13	45/57
复发数	3/13	2/13	2/13	3/13	10/57
死亡数	5/13	4/13	3/18	0/13	12/57

表 2 常规疗法可治, 但用激光气化治疗, 其结果为

	3 年以上	2~3 年	1~2 年	1 年以内	总计
生存数	5/5	1/1	16/16	4/4	26/26
复发数	2/5	0/1	2/16	3/4	7/25
死亡数	0/5	0/1	0/16	0/4	0/26

另外用 N_2 激光照射治疗二例: 一例为晚期上颌窦癌, 另一例为在术前放疗及行全上颌骨切除后复发。在 N_2 激光照射治疗后癌消失。根据动物肿瘤及人体癌的实验, 并通过光学显微镜及电镜作组织学观察, 以及体外癌细胞的培养均证实, N_2 激光照射可抑制和杀伤癌细胞。

因此, 用激光治疗头面部恶性肿瘤是一种有希望的手段。