

A **Colour** Atlas of Oral and
Maxillofacial **Oncologic** Surgery

口腔颌面肿瘤

外科手术彩色图谱

▶▶ 翦新春 / 著



世界图书出版公司

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翦新春 著
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前 言

在近代外科学中,最为刺激和最具挑战性的新技术之一是颅底部和头颈部肿瘤经外科手术切除后的即刻重建技术。发生在颅底、口腔、颌面部或颈部的良恶性肿瘤,在处理时往往需要神经外科和头颈外科医师们通力合作,对发生在这一边缘区域的病变进行联合外科处理,使这些病变的治疗得到了革命性的改变。本书主要内容集中在对颅底及口腔颌面颈部良、恶性肿瘤的外科处理上,特别是恶性肿瘤;有时认为不能处理或处理不当会造成患者死亡,由于有了神经外科和头颈外科医师,有时还有整形外科医师合作进行手术,使得这些具有挑战性的肿瘤得到了完整、干净的切除。

本书由10章组成,包括了口腔、颌面、颈部发生的大部分良恶性肿瘤,对其手术切除及重建的方法进行了详细的描述。在重建中,因为有些皮瓣适应于多个区域的重建,因此某一皮瓣的手术方法可能在多章节中描述。

本书每章每节对手术的进路是我们对每个患者选择的个性化手术方法,手术技术是以每步每步的描述呈现给读者的,这种描述有助于指导外科医师进行良好的外科手术。

在该书出版之际,首先感谢对我个人从事口腔颌面颈部肿瘤外科治疗起到关键性指导作用的前辈们。邱蔚六、张孟殷教授是鼓励和为我从事口腔颌面颈部肿瘤外科树立榜样的向导者。袁贤瑞教授、马建荣教授是对我从事颅底肿瘤外科得以实施造成影响的神外科方面的伙伴。我感谢原湖南医科大学湘雅医院口腔颌面外科,现中南大学湘雅医院口腔颌面外科的同事们,如果没有他们的努力工作和熟练的技术合作,我的成功是不可能的。

我要特别感谢原湖南医科大学湘雅医院前院长、神经外科主任刘运生教授,原湖南医科大学湘雅医院副院长、耳鼻咽喉科主任肖健云教授,原中南大学湘雅医院院长、现湘雅医学院院长田勇泉教授对我各方面的指导、帮助和支持。

我要感谢吴林艳女士在我的书稿整理和打印上所做的杰出而不知疲倦的努力。

我要感谢高兴与我合作的患者们,他们的真诚给我的职业进取提供了极大的力量。

最后,我要特别感谢我的生活和家庭中最重要的人们,他们永恒的支持、关爱和热情点燃着我每天生活和工作的活力。

我相信这本书对口腔颌面肿瘤外科医师的手术操作能够起到一定的帮助,然而,本书只在手术如何进行上起指导作用,并不能取代对知识的继续追求。

葛新春

2003. 5. 8

Preface

One of the most exciting and challenging innovations in modern surgery is the advent of skull base surgery and immediate reconstructive techniques after excision of the tumors of the head and neck. The well-coordinated, integrated surgical attack on tensions afflicting this transitional area between neurologic and head and neck surgery has revolutionized the management of these lesions. This book is primarily focused on the surgical treatment of neoplasms on the oral and maxillofacial regions. These tumors, especially malignancies, were often considered inoperable and the patients doomed to die. The cooperative surgical attack by the neurosurgeon and the head and neck surgeon, followed by the expertise of the reconstructive surgeon, has resulted in complete resection of these challenging tumors and a safe water-tight closure.

There are 10 chapters in this book that most tumors occurred in the head and neck regions are included and the reconstructive methods after the excisions are described. On the reconstruction methods, because similar flaps may be indicated for multiple problems, certain flaps may be described in more than one chapter. The approach described in each chapter has followed our approach to individual patient. The operative technique section provides the reader with step-by-step description of the procedure. It is our intention that this descriptive method will guide the surgeon during operative procedure.

When this book will be published, I would like to acknowledge the pioneers in oral and maxillofacial oncologic surgery who have had a personal influence on my career in this adventurous endeavor. Prof. Weiliu Qiu, Mengyin Zhang were among the forerunners in oral and maxillofacial oncologic surgery whose example and encouragement stimulated me to embark on my career in oral and maxillofacial oncologic surgery. Prof. Xianrui Yuan, Jianrong Ma are neurosurgery colleagues who have significantly influenced the shaping of my thought processes as skull base surgery has evolved.

I would like to thank the members of Department of Oral and Maxillofacial Surgery, Former Hunan Medical University. The success of my career would have been impossible without their skill and hard work.

I would further like to thank Prof. Yunsheng Liu, former President, Director, Department of Neurosurgery, Xiang Ya Hospital, former Hunan Medical University; Prof. Jianyun Xiao, former vice-President, Xiang Ya Hospital, former Hunan Medical University; Prof. Yongquan Tian, former President, Xiang Ya Hospital, for their support and assistances.

I would like to thank Mrs. Linyan Wu for her outstanding, tireless efforts and hard work in the typing of the manuscript. I would like to thank the patients with whom I have had a pleasure to interact. Their trust and honesty has kept me humble and encouraged me to remain in the health care profession. Finally, I would especially like to thank the most important people in my life, my family. Their undying support, love, and enthusiasm refresh my spirit to meet each day with a renewed level of excitement.

I believe that this book can be of some assistance in the development of the oral and maxillofacial oncologic surgeon's operative career. However, it should serve only as a guide to getting started and is in no way a replacement for a continuing quest for further knowledge.

Xinchun Jian

May. 8. 2003

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I. Intracranial and skull base tumors

1. Surgical excision of malignant lymphoma in the temporal fossa and dura
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1. 颞窝及脑膜恶性淋巴瘤的外科手术治疗

1. Surgical excision of malignant lymphoma in the temporal fossa and dura

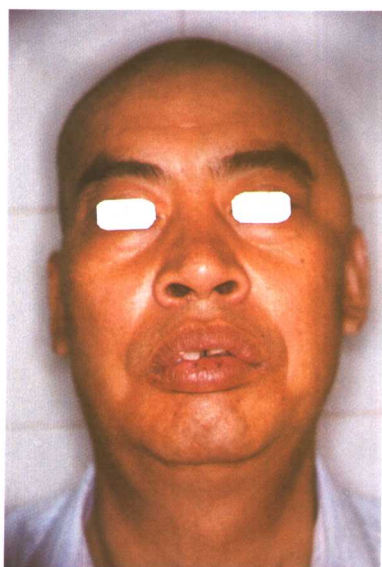


图 1



图 2

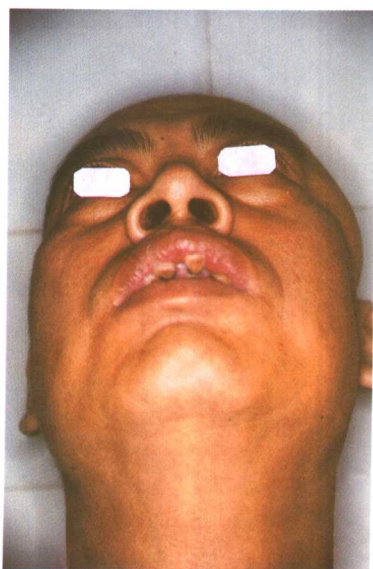


图 3

图 1, 2 患左颞部及颅中窝恶性淋巴瘤 48 岁患者的正面及侧面观。

图 1 正面观显示双侧颞部不对称, 左侧明显膨隆; 图 2 侧面观显示左侧颞部丰满, 表面皮肤正常。

Fig. 1, 2 Frontal and lateral views of a 48-year-old male patient with malignant lymphoma in the temporal region and middle cranial fossa.

Frontal view shows both temporal asymmetry and the left temporal expansion obviously. Fig. 2 shows left temporal expansion. The superficial skin is normal.

图 3 仰面观左侧颞部膨隆。

Fig. 3 Submental view shows left temporal expansion.

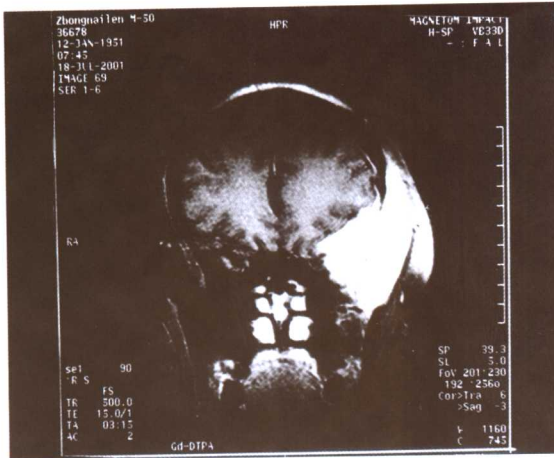


图 4

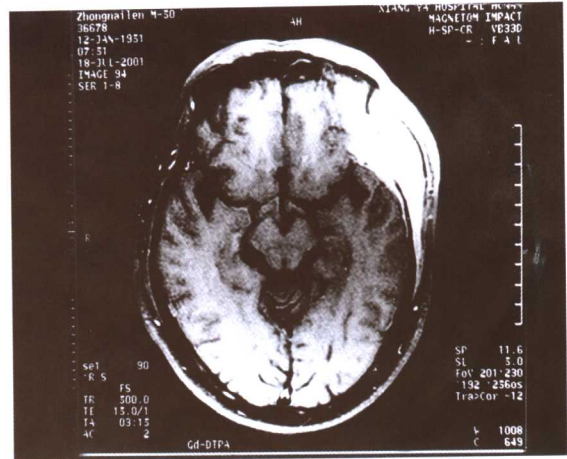


图 5

图 4,5 冠状及横断磁共振扫描显示肿瘤通过颞骨侵入颅内硬脑膜。

Fig. 4, 5 Coronal and axial magnetic resonance image shows penetration of tumor through temporal bone into overlying dura.

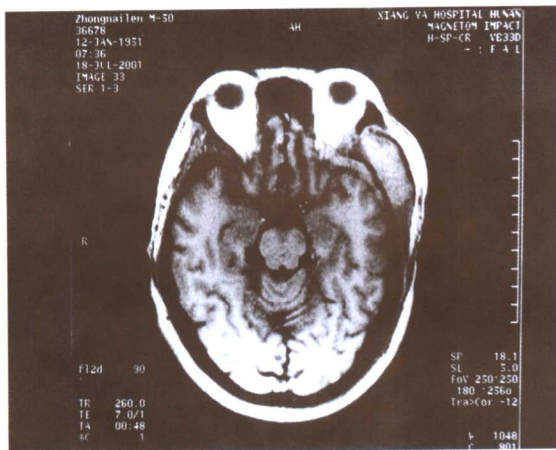


图 6

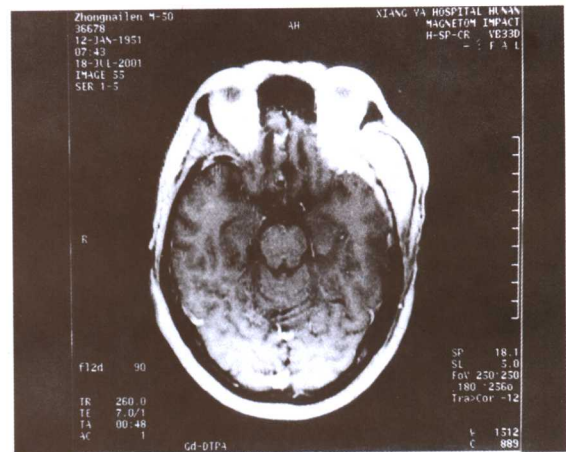


图 7

图 6,7 横断磁共振显示肿瘤侵犯眼球外侧部及眼球后部结构。

Fig. 6, 7 Axial magnetic resonance image shows extension of the tumor into lateral orbital wall and postocular tissue.



图 8



图 9

图 8 用美蓝画出半冠状切口的切口线。

图 9 按标准的方法掀起头皮瓣，向前解剖达眶外侧缘。切断颞浅动脉的前支并电凝，保留颞浅动脉的后支以供颞肌之血运。切口在颞弓之下的部分应在腮腺筋膜浅面以避免损伤腮腺浅叶及面神经的分支。

Fig. 8 The standard hemi-coronal incision line is marked out by the methylene blue.

Fig. 9 The scalp flap is raised in the standard way, anteriorly the dissection is taken to the lateral orbital rim. The anterior branch of the superficial temporal artery is coagulated and sharply transected. The posterior branch of the superficial temporal artery is left undisturbed along the temporalis fascia to provide vascularization to the temporalis muscle. The incision is

extended inferiorly beneath the pinna of the ear. The subzygomatic portion of the incision is made superficially to avoid injury to the parotid gland and the branches of the facial nerve.

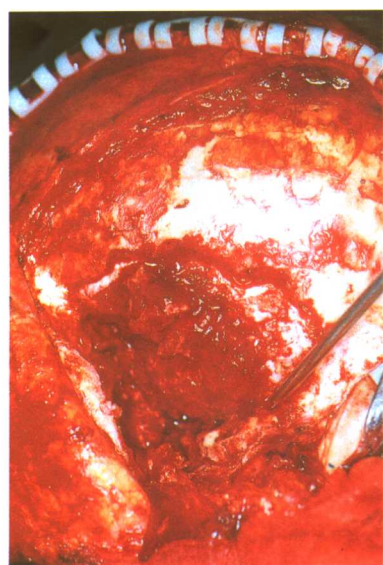


图 10

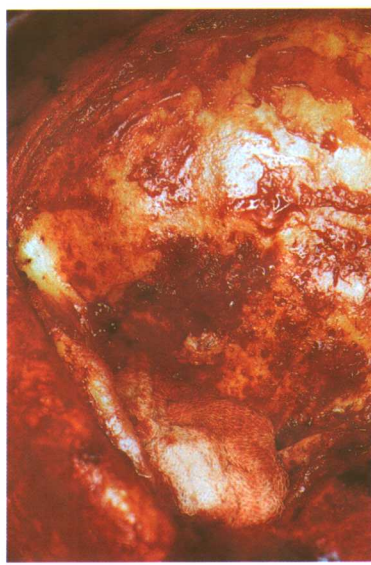


图 11

图 10 切开颞肌浅及深筋膜层，在行此切口时，应从眶外侧缘后 1cm 与颞弓平行切开，其目的是避免损伤面神经额支。从颞弓上在骨膜下分离颞肌筋膜，并将此筋膜向前反折。在颞突和颞弓根部行颞弓截断术，在截断颞弓之前，在截骨的两端分别钻孔以便颞弓复位时的固定。沿颞上线切开颞肌及颞肌筋膜，用一宽而扁的骨膜剥离器沿颅骨膜深面分离颞肌骨膜瓣。此时，颞部及颞下窝的肿瘤完全被暴露于手术野中。

图 11 在肿瘤周围至少 1cm 去除颅外肿瘤部分；见颞骨部分骨质破坏。

Fig. 10 A subficial incision is made through the superficial and deep temporalis fascia layers, 1cm posterior to the lateral orbital rim,

parallel to the course of the zygoma, to avoid injury to the frontalis branch of the facial nerve. The temporalis fascia is then dissected from the zygoma in a subperiosteal fashion and this fascia is reflected anteriorly. A zygomatic osteotomy is made at the malar eminence and at the root of the zygoma. Drill holes are placed in the two ends of each osteotomic line in anticipation of placing miniplates for later reconstruction.

The temporalis muscle/fascia along the superior temporal line is incised and is reflected the temporalis inferiorly.

Fig. 11 The tumor is completely exposed in the operative field. After partial tumor of out of the cranium is removed, the destruction of the temporal bone is obvious.

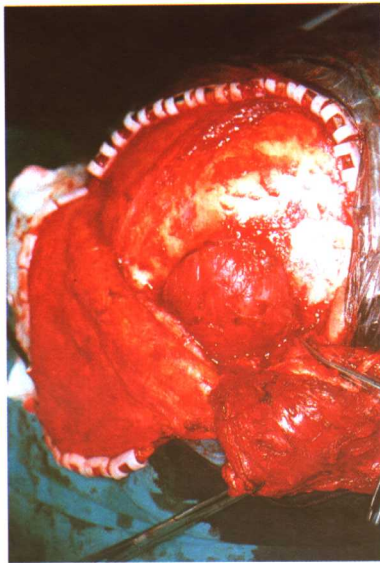


图 12

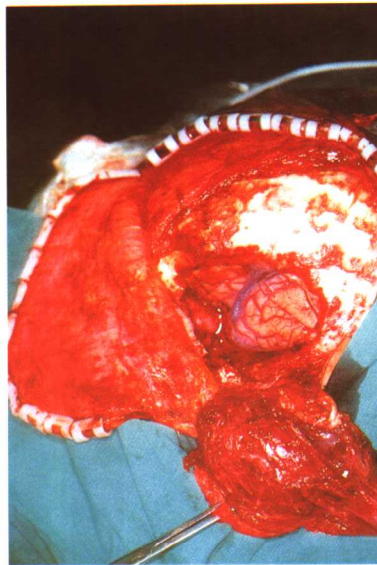


图 13

图 12 截开颞部骨板。暴露中颅窝和中颅窝内的下部结构的关键是要行 L-型的颅骨截开术,该术式截开的颅骨包括蝶骨大翼、颞骨鳞部、圆孔和椭圆孔端的水平部分。通常,一个中等大小的截骨就能提供足够的暴露。脑膜的肿瘤侵犯随肿瘤在血管和神经进入颅内的孔道处累及较少,如果肿瘤行放射治疗后复发而往往有广泛累及,有时甚至半侧脑膜被肿瘤组织所替代。

图 13 在正常脑膜 5-10mm 之内切除脑膜组织,并对切除边缘的脑膜组织行冰冻切片活组织检查。通常,肉眼认为正常的脑膜组织也有肿瘤的扩散,而且需要在病理学报告指导下进一步的切除范围。图 13 为受累硬脑膜切除之后的情景,中脑浅静脉明显可见。

在中颅区行手术时,有两点应特别注意,那就是生命中枢结构和某些重建的困难而使切除受到限制。

在中颅窝妨碍进一步脑膜切除的两个主要结构是下吻合静脉和上矢状窦,下吻合大脑静脉在不同的距离将矢状窦的静脉血引流进入侧窦。假如上吻合静脉不能耐受或管腔过小的话,下吻合静脉将是整个同侧大脑半球惟一的引流静脉。如果将它损伤的话,将会导致同侧大脑半球的栓塞甚至造成病人的死亡。这可在手术前脑静脉造影确定静脉类型而避免该并发症。

在前颅窝从前颅窝底向上到冠状缝的上矢状窦可以被安全地结扎。中颅窝的血管不能被结扎,否则将会导致偏瘫和死亡。幸运的是颅底肿瘤扩散达此处的病变极罕见。

切除脑膜的另一个限制是脑膜修复和脑脊液漏的预防。当沿其下的脑干行脑膜切除时,在获得良好的脑膜关闭上困难会逐渐增加,在此部位的脑脊液漏与鼻咽部相通,鼻咽部是整个上呼吸道病原菌高度集中的部位之一。组织胶可以应用,但在强度上仍以缝线为优,大多数纤维胶约在 1 周内粘附强度丧失。

Fig. 12 Temporal bone is osteotomied. The key to the exposure to the middle fossa and its immediate subcranial structures is an L-shaped craniotomy that has a vertical component comprised of the greater wing of the sphenoid and squamosal aspect of the temporal bone, and a short horizontal component that ends at the foramen ovale and foramen spinosum. Often a modest-sized craniotomy provides adequate exposure.

Dural invasion varies from minimal involvement at the neural and vascular foramen at the sites of entry into the intracranial space to widespread involvement characteristic of recurrent tumors after full-course radiation therapy. Sometimes the half dura is replaced almost entirely by tumor tissue.

Fig. 13 A cuff of 5 to 10mm of grossly healthy dura is excised and the periphery examined by frozen-section analysis. Often grossly normal dura has tumor extensions and requires further resection as dictated by the pathologist's report. Fig. 13 shows the condition after the involved dura has been resected and the superficial middle cerebral vein may be seen in the operative field.

Certain limitations to resection are imposed by vital central structures and the restrictions of certain reconstructive

options. In the middle fossa, the two major structures that impede further dural excision are the vein of Labbé and the superior sagittal sinus. The vein of Labbé, or inferior anastomotic cerebral vein, drains into the lateral sinus at a variable distance from the sigmoid sinus. If the superior anastomotic vein of Trolard is not patent or is of small caliber, the vein of Labbé will be the only vein draining the entire ipsilateral cerebral hemisphere. To sacrifice it would then result in massive infarction and often death. Cerebral venography may establish the venous drainage pattern in those patients in whom the vein of Labbé is in jeopardy.

The superior sagittal sinus can usually be safely obliterated in the anterior fossa from the anterior fossa floor up to the coronal suture. The middle fossa component cannot be ligated because in most instances it will lead to quadriplegia and often death. Fortunately, few skull base tumors extend that far.

The second dural restriction concerns the potential for dural reconstruction and the provision of a watertight seal. As dural resection along the clivus and under the brainstem increases in extent, there is a progressive increase in difficulty in obtaining a sound dural closure. A cerebrospinal fluid leak at this site is an open avenue to the nasopharynx, which possesses one of the highest concentrations of pathogenic bacteria in the entire upper aerodigestive tract. Tissue glue helps, but a suture line is superior in strength. For most fibrin glues, the adhesive strength is lost in about 1 week.

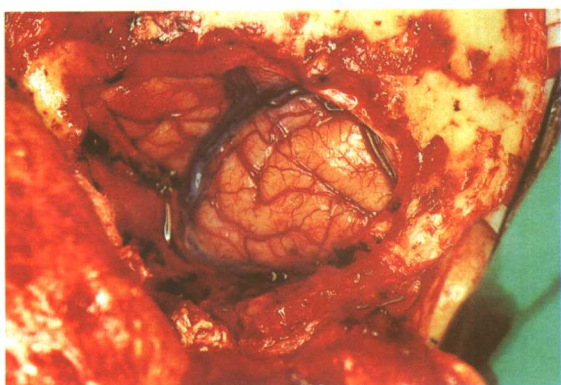


图 14

图 14 部分硬脑膜切除之后的情景,大脑浅中静脉清晰可见。

图 15 为了防止脑脊液漏,颞筋膜被用来修复被切除的脑膜。缝合应仔细,尤其是在斜坡上的下面。缝合之后擦干创面,涂布组织胶以增加缝合强度。第二层由肌肉组成,假如颞肌被保留的话,可以被用来修复颅底和覆盖在截开的颅骨部位。在通过此种处理后,由切除蝶骨之下的软组织遗留的浅在死腔得以消失。

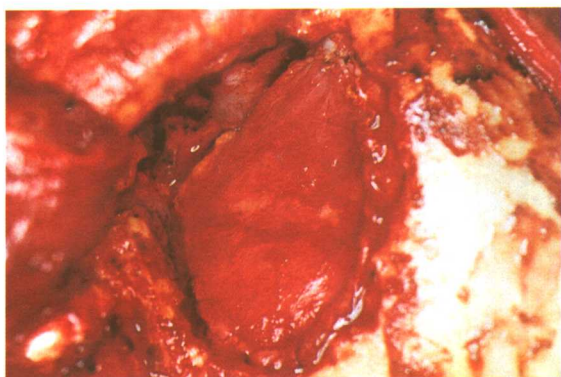


图 15

Fig. 14 The condition after the partial dura has been excised. Superficial middle cerebral vein may be seen.

Fig. 15 To prevent cerebrospinal fluid leak, fascia lata, temporalis fascia, or allograft may be used to patch resected dura. Careful suture, especially on the inferior aspects above the clivus, is essential. The closure may be enhanced with tissue glue.

The next layer comprises muscle. The temporalis muscle, if preserved, is placed under and across the craniotomy site. The pericranial cuff is sutured to the basipharyngeal fascia of the nasopharynx. In this way, the potential dead space left by resected soft tissue under the sphenoid bone can be obliterated. The integrity of the muscle is carefully ensured before this step.



图 16

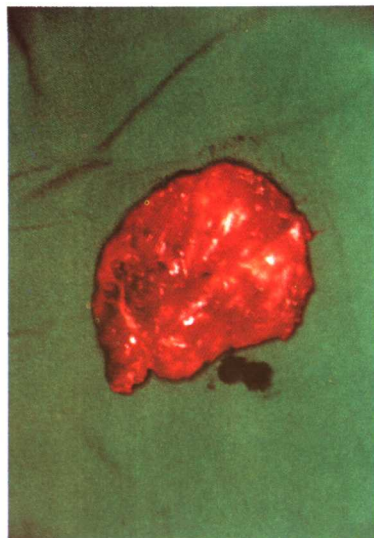


图 17

图 16 将颧骨和截开的颅骨瓣还回，用微型钛板固定，L 型颅骨切开瓣通常部分被丧失是因为骨被肿瘤破坏和保证肿瘤在安全缘被切所致，应当由肌瓣充填。

缝合皮肤，创口放置负压引流，除非有脑脊液漏形成，一般引流在术后 72 小时被拔除。

如果脑脊液漏在术后 3 天还不停止，病人应被送入手术室行脑脊液漏修补。

图 17 被切除的肿瘤标本。

Fig16 The zygoma and the craniotomy bone flaps are returned and fixed with mini-plates. The inferior aspect of the L-shaped

craniotomy flap is often partially missing because of bone erosion by tumor and subsequent osseous resection to ensure tumor-free margins. The muscle flap fills in the dead space and adds support.

Skin closure is then done and the wound drained with a closed system of suction drainage.

The lumbar drain is usually discontinued at about 72 hours unless a cerebrospinal fluid leak occurs. If a leak does not stop in 3 days, the patient should be sent back to the operating room for repair.

Fig17 The specimen excised tumor.



图 18



图 19

图 18, 19 患者行颞窝及颅中窝肿瘤切除后 6 个月的情景。

Fig18, 19 Patient, 6 months after temporal fossa-middle cranial fossa tumor resection.

2. 中颅窝脑膜瘤继发侵犯翼下颌间隙的手术治疗

2. Surgical treatment of intracranial meningioma secondarily involving infratemporal fossa and pterygomandibular space



图 20



图 21



图 22

图 20 左中颅窝脑膜瘤继发侵犯颞下颌间隙的 53 岁一女性患者，正面观显示两侧面颊部明显不对称，左侧明显膨隆。

图 21 侧面观见左侧颞下及左面部明显膨隆，表面皮肤正常；左侧眼裂变小。

Fig. 20 A 53-year-old women patient with left middle cranial fossa meningioma secondarily involving infratemporal fossa and pterygomandibular space.

Fig. 21 Frontal view shows that both sides of the face are asymmetry and left side is expansive. Lateral view shows that left face is expansive and facial skin is normal.

图 22 仰面观见两侧面部不对称，左侧面部极度膨隆。

Fig. 22 Submental view shows that both sides of the face are asymmetry and the left side is expansive extremely.