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음성개선을 위한 갑상연골성형술

연세의대

김기령 · 김광문 · 정명현 · 이원상 · 정승규

최근의 후두미세수술(Laryngo-microsurgery)의 보편화와 이에따른 음성외과학(phonosurgery)의 발달로 종전까지 성대결절이나 성대폴립등의 양성종양 절제나 반회신경 마비등예에서 진단된 성문간격(glottic chink)을 Teflon®injection 등으로 치료해오던 후두경술(Laryngoscopy) 하에서의 수술적 조작이 그 한계와 범위를 넘어서서 이제는 우리나라에 있어서도 후두의 기능외과적인 측면에서 음성을 개선하려는 시도가 고조되고 있으며 특히 성대마비나 변성기발성장애(Mutational dysphonia), 성대위축(Vocal cord atrophy), 운동기능항진성발성장애(Hyperkinetic dysphonia), 성대구증(Sulcus vocalis) 등을 위한 음성개선수술이 실시되고 있음은 우리나라의 음성외과학의 발전이라는 견지에서도 매우 기꺼운 일이다.

이러한 뜻에서 내시경술을 통해서 성대에 직접 수술적 조작을 가하지않고서도 성문외적으로 후두구조를 수술하여 성대의 위치와 물리적 성질을 변화시킴으로서 음성을 개선하려는 갑상연골성형술(thyroplasty)이 성행되고 있음을 강조하고싶다. Isshiki(1974)는 이러한 thyroplasty 를 4 종류로 분류하였으며 편측성 성대마비의 경우 I 형 thyroplasty(lateral compression of vocal cord)와 IV형 thyroplasty(Lengthening of vocal cord)가 효과적인 수술방법인데 이들 수술의 장점은 국소마취하에서 환자의 목소리를 들어가면서 lateral compression 의 정도를 조정해서 시술할 수 있다는것과 갑상연골내측 연골막 밖에서의 조작으로서 후두내출혈이나 호흡곤란등의 위험성이 전혀 없다는 것이다.

본 교실에서는 1981 년 9 월부터 1982 년 3 월까지 7 개월간에 경험한 편측성성대마비 7 예에 대하여 국소마취하에서 thyroplasty 를 시행하여 약간의 지견을 얻었기에 보고하는 바이다. 수술에 앞서서 모든 환자에게 미리 공기역학검사, 청각심리적검사, 스트로보스콥검사(stroboscopy) 및 음향분석(Sound spectrographic analysis)을 실시하였으며 thyroplasty 시행 2 개월후에 상기한 검사를 다시 시행해서 수술전후의 음성을 비교관찰하여 다음과 같은 성적을 얻었다.

1) 공기역학검사상 최장발성지속시간(Maximum phonation time)은 58 % 증가되었으며 이에따른 발성시호기유율(Phonation quotient)과 평균호기유율(Mean flow rate)은 각각 58 %, 54 %로 감소되었다.

2) 청각심리적검사에서 사성의 정도가 호전되었으며 스트로보스콥검사에서도 발성시 성문간격의 개선을 보았다.

3) 음향분석도상에서 성대 진동의 주기성(Periodicity)이 회복되었으며 특히 고주파역에서의 잡음분포가 감소되었다.

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喉頭異物

서울醫大

李光善 · 朴永源 · 白萬基 · 金宗善

喉頭異物은 氣道一食道異物의 전체예에서 차지하는 수는 적으나 일단 걸리면 질식사 할 수 있으므로 곧 적절한 기구를 사용하여 제거할 수 없으면 氣管切開術을 요하는 응급질환이다.

저자들은 3 예의 喉頭異物의 보고와 함께 이 질환의 진단, 예방 및 처치에 대하여 문헌고찰과 함께 보고하는 바이다.

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연골피막편 이식후 기관 결손부위의 재생에 관한 실험적 연구

(제 1 보)

연세의대

이원상 · 서장수 · 이성은 · 홍원표

연세의대 병리학교실

박 찬 일

근래에 기도 협착의 발생빈도는 수술요법의 괄목할만한 진전과 Low pressure cuff 가 개발된후 현저히감소하고 있으나 호흡부전으로 Ventilator 를 사용하는 경우

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Thyroplasty for the Restoration of a Normal Voice

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The use of phonosurgery in the recent development of laryngomicrosurgery has enabled the restoration of a normal voice in respect to functional laryngeal surgery which in Korea in the past limited to simple removal of benign laryngeal tumor such as laryngeal polyp or nodules and cordal injection of Teflon® for the treatment of recurrent nerve paralysis under the vision of suspension laryngoscopy.

Performance of phonosurgery for the treatment of cord paralysis, mutational dysphonia, vocal cord atrophy, hyperkinetic dysphonia and sulcus vocalis is a happy event in the view point of development of phonosurgery in Korea. In this aspect thyroplasty to change the position and physical characteristics of the cord outside the glottis instead of the direct handling of the vocal cord through direct endoscopy is popular. Among the 4 types of thyroplasty, classified by Insshiki(1974), type I thyroplasty(lateral compression of vocal cord) and type IV thyroplasty(lengthening of vocal cord) were effective in the treatment of unilateral vocal cord paralysis. Advantages of this operation are the fine adjustment of the degree of lateral compression under local anesthesia according to the phonation of the patient during operation and avoidance of dyspnea and intralaryngeal hemorrhage due to the manipulation outside the internal perichondrium of the thyroid cartilage.

We did 7 cases of thyroplasty for the treatment of unilateral vocal cord paralysis in the 7 months from September 1981 to March 1982. Before the operation aerodynamic study, psychoacoustical evaluation, stroboscopy and sound spectrographic analysis were done. Two months after the operation the above procedures were performed again. Results of preoperative and postoperative examination were compared and the following results were obtained.

1) In the aerodynamic study, maximum phonation time increased to 158% of the preoperative value and the phonation quotient and the mean flow rate decreased to 58% and 54% of preoperative values.

2) The degree of hoarseness improved in the psychoacoustical evaluation and the glottic chink during phonation was decreased in the stroboscopic examiantion.

3) In the sound spectrographic analysis, periodicity was much restored and noise distribution decreased especially in the high frequency area.

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Laryngeal Foreign Bodies

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The laryngeal foreign bodies are not common among the foreign bodies in the air and food passage, however, it would cause fatal airway obstruction without performing immediate endoscopic removal or emergency tracheostomy procedure.

It is our intent to report three cases of laryn-

geal foreign bodies, and to discuss diagnostic procedures, preventive measures and management of this problems.

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Tracheal Reconstruction with Perichondrial Graft
— An Experimental Study in Rabbits —

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Recently through the advancement of medical and surgical managements and the development of low prssure cuffed endotracheal tube, incidence of tracheal stenosis was decreased significantly. Though its incidence was decreased markedly, stenosis was developted unfortunately in the situations such as long term use of respirator, heavy infection, trauma of the trachea and long term intubation etc. Tracheal stenosis had been handled with various methods such as mechanical dilatation, tissue graft techniques, luminal augumentation and end to end anastomosis due to their individual advantages but their effects were not satisfactory.

In 1959 Lester had been found the regenerated cartilage from the perichondrium of the rib incidentaly. Since then Skoog, Sohn and Ohlsen were reported chondrogenic potential of perichondrium through the animal experiments. Though many different materials have been tried to rebuild stenosis and gaping defect of trachea, tracheal reconstruction has been a perp lexing clinical problems.

We choose the perichondrium as the graft material because cartilage is the normal supporting matrix of that structure and it will be an obvious advantage to be able to position perichondrium over a defect and obtain new cartilage there. The young rabbits, which were selected as our experimental animals, were sacrified from two to eight weeks after surgery.

The results of our experiment were as follows;

1) In control group, the defect site of trachea was covered with fibrosis and ve els but graft site was covered with hypertrophied perichondrium and vessels.

2) Respiratory mucosa was completely regenerated in defect sites both control and grafted groups.

3) The histologic changes of the grafted sites were as follows:

2 weeks– microvessel dilatation, inflammatory reaction,initiation of fibrosis

4 weeks– decreased microvessel engorgement, submucosal fibrosis,decreased inflammatory reaction immatured cartilage island was noted in the grafted perichondrium (one specimen)

6 weeks– mild degree vascular engorgement submucosal fibrosis.
chronic inflamatory reaction cartilage island and endochondrial ossification was noted in the grafted perichondrium (Two specimens)

8 weeks– minute vascular engorgement dense submucosal fibrosis.
loss of inflammatory reaction.
cartilage island was noted in the grafted perichondrium (two specimens)

4) There was no significant differences in regeneration between activesurface in and out groups.