Aesthetic plastic surgery education

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It is an honour and a pleasure for me to share this Carlsen Lectureship with Bill Graham this year.

Lloyd Carlsen has earned this named 'Lectureship' in many ways. He is, and has been, a thoughtful innovator in the development of several important aesthetic techniques and procedures and he has been willing to share this knowledge with the plastic surgery community. He has been an extremely strong force in the development, often against very serious detractors, of the subspecialty of aesthetic surgery in the context of the broader field of plastic and reconstructive surgery. This 20th scientific meeting of the Canadian Society for Aesthetic (Cosmetic) Plastic Surgery, with its excellent hands-on teaching technique of live surgery and its broad scope of material in paper presentations, is a tribute to Lloyd Carlsen and to the other founding members who were so instrumental in the development of this specialty society.

AESTHETIC PLASTIC SURGERY EDUCATION

Aesthetic surgeons are plastic surgeons who have a special interest and expertise in procedures to change form and to improve appearance. First and foremost in my opinion, the aesthetic surgeon must be a well trained plastic surgeon with a solid background in the principles of surgery as related to the care of the whole patient. Aesthetic surgery procedures are major in scope and are equal in importance to any other type of surgical intervention. All of us in plastic surgery are constantly striving for the improvement of patient care through learning, application of techniques and the development of surgical expertise. Aesthetic surgery has developed as an integral component of plastic surgery and it now stands in the forefront along with other specialized areas such as microsurgery, hand surgery, craniomaxillofacial surgery, reconstructive surgery of the breast and extremities, burns, and research as applied to plastic surgery.

HISTORY OF EDUCATION IN AESTHETIC SURGERY

Most of the teaching in aesthetic surgery over the past many years, and to some extent even today, has been achieved through the preceptorship method. An experienced

surgeon or master would allow one or several students to observe his or her work and sometimes even to participate in the operative procedures so that exposure was obtained and expertise developed. Later, programs in aesthetic surgery developed and fellowships were designed so that the student or apprentice would be able to participate more fully and obtain a better educational experience. In recent times, instructional or study sessions have developed along with symposia and broadened scientific meetings at national plastic surgery societies; experts in the field present their material as teachers and those in attendance are exposed to newer techniques and a learning experience.

HISTORY OF AESTHETIC PROCEDURES

Rhinoplasty

Nasal operations were described as early as 3000 BC in the Egyptian papyrus as researched by Edwin Smith (1). These operations were probably directed toward treatment of fractured noses. Sushruta, around 600 BC, described reconstruction of noses using forehead flaps. Marked progress in true rhinoplastic surgery developed in the 19th century and actually exploded in the 20th century. Early authors such as Carpie (2) of York Hospital in Chelsea, England, reported on two successful operations for restoring a lost nose using a midline forehead flap. Dr John Roe (3) of Rochester, New York, is likely the first surgeon to publish the intranasal approach to rhinoplasty procedures. He published a report in 1887 on five patients who had the nasal tip reduced by direct excision of cartilage and soft tissue through the nostrils without any external incisions. Dr Jacques Joseph of Berlin is recognized as the foremost author of the principles of endonasal rhinoplastic procedures and his operation was first presented in Berlin in 1898. Dr Roe had published his material 11 years before this meeting but it seems likely that both surgeons devised their methods independently.

Otoplasty

Dr Edward T Ely (4) of New York first published his operation for the correction of outstanding ears in 1881. He did a direct excision of skin and cartilage through both anterior and posterior incisions. Dr William H Luckett (5) of New York described his operation for the correction of prominent ears by direct excision and suture of the cartilage through a posterior incision. In his article, he stated that it would be

possible to reconstruct the antihelix in children with thin cartilage without excising a segment and suturing it in place much as Mustardé described in 1960.

Today, otoplasty procedures, using a variety of techniques, usually yield satisfactory results and improved school and work performance by children and adults who are troubled with these deformities.

Blepharoplasty

The development of teaching in blepharoplasty dates back many years and often the true history is clouded by writings of several surgeons in different countries. Sichel (6) is recognized for excision of skin and herniated orbital fat, a procedure first described in 1844. Fuchs (7) in 1896 excised skin and subcutaneous fat to correct blepharochalasia. Miller (8) of New York used an incision placed just below the eyelashes in a semilunar shape to permit traction and removal of excess tissue by excision of a triangle. Passot (9) of Paris used a subconjunctival approach for removal of fat of the lower lid in the early 1900s. Numerous authors since then have described their techniques and this list might include such surgeons as Bames, Castanares, Passot and many more.

Rhytidectomy

Kathryn Lyle Stevenson (10) states that the history of face, neck and eyelid surgery cannot be accurate. Often innovators are not writers, and authors assume originality that should properly be accredited to other surgeons. Nevertheless, the face lift is presumed to have been undertaken in the early 1900s. Dr Miller of New York, who was previously mentioned regarding blepharoplasties, stated that certain advertisers were performing an operation which he must condemn. He talked about an incision just anterior to the ear and extending downwards into the neck. Many European authors mention the efforts of American surgeons such as Ferris Smith and Eastman Sheehan. It is also known that Wilray Blair, Robert Ivy, Sir Harold Gillies and other accredited plastic surgeons did perform rhytidectomy surgery but did not consider it worthy of report.

Lexer (11) is generally credited with performing the first face lift with very limited undermining of approximately 2 to 3 cm. Passot in 1919 published his paper on rhytidectomy and made comments referable to Professor Morestin. He also referred to Madame Pertat or Noël (12), one of the first great women plastic surgeons, who published some of her work in 1926. From 1930 to the present, rhytidectomy procedures have evolved on scientific merit as related to improvement in surgical techniques. The understanding of facial anatomy, muscle forces and research into wound healing and facial aging have all added to the progress in this area. The development of the SMAS technique with its variations, deep plane and subperiosteal dissections in face lift procedures, the use of endoscopic techniques, and other adjunctive procedures, have all added to the complexity of these surgical procedures but have and will likely continue to improve outcome and results.

Other areas of aesthetic surgery include reconstructive and

augmentation breast procedures; body contour surgery; lipoplasty and liposuction; craniomaxillofacial surgery with its interface between aesthetic and reconstructive aspects; and burn surgery. With this increasing complexity, it is essential to develop a structured curriculum for the teaching and participation of residents in such aesthetic surgery procedures.

CURRENT METHOD OF AESTHETIC TRAINING IN PLASTIC SURGERY

Curricula

A curriculum is established as an important component of aesthetic surgical training through the Royal College of Physicians and Surgeons of Canada, and the Association of Academic Chairmen of Plastic Surgery in the United States. These residency requirements are carefully monitored by the Royal College and by the Residency Review Committee in the United States. If the aesthetic portion of the program is not sufficient for training, then that program is placed on probation and if the requirement is not fulfilled, then the program is dropped from the approved list of residencies.

Other educational opportunities

In addition to residency programs, individuals interested in developing further expertise in aesthetic surgery might consider fellowships or preceptorships following completion of the residency requirements. As well, all plastic surgery scientific meetings have increased the quantity and quality of aesthetic topics and panels at both the national and international level. Symposia and seminars are offered frequently for detailed study of the most recent techniques in aesthetic surgery. The largest number of topics presented through the instructional courses at the annual meeting of the American Society of Plastic and Reconstructive Surgery (ASPRS) is devoted to aesthetic surgery. In addition, instructional courses are presented at the American Society of Aesthetic Plastic Surgery, the International Society of Aesthetic Plastic Surgery and the Canadian Society of Plastic Surgeons.

At the annual meeting of the ASPRS in Montreal, held in 1971, I had the opportunity of acting as chairman of the instructional courses committee. This was in the early days of their development and I succeeded Dr Lester Cramer in this responsibility. In Montreal that year, we presented 40 instructional courses. Remarkably, this has now expanded to over 200 courses each year at ASPRS meetings. In 1975, I had the opportunity of acting as chairman of the instructional courses for the International Society of Aesthetic Plastic Surgery and we presented 42 instructional courses that year in Paris. In 1975, when I was the President of the Canadian Society of Plastic Surgeons, Dr Lloyd Carlsen and others approached me regarding the possibility of a seminar on an aesthetic topic during our annual meeting held that year in Toronto. Being a conservative, I was somewhat reluctant but I conceded due to its importance and I believe that this was the first organized attempt at presenting an aesthetic topic in detail at the Canadian meeting. The Canadian Society for Aesthetic (Cosmetic) Plastic Surgery was formed in 1972 to fulfil the needs of this

specialized area which were not provided by the plastic surgery society itself. This was similar to the start of the American Society of Aesthetic Plastic Surgery whose founders felt that an expanded program for presentation of aesthetic topics would be better served by a separate society than that provided by the ASPRS.

Training requirements

The Royal College of Physicians and Surgeons of Canada state that two years of core surgical training are essential before the start of a three year plastic surgery residency. Prior to this new requirement, plastic surgery consisted of a one year internship, two years of general surgery and two years of plastic surgery. In my opinion, two years of core surgical training is inadequate for the proper training of a plastic surgeon. I feel that three years of plastic surgery training is definite progress but it should not be achieved by a reduction in the general surgical requirement. In Quebec, Dr Gilles Beauregard, director of the training program at the University of Montreal, and I met with the Corporation professionnelle des médecins du Québec. This resulted in the decision to have plastic surgery training include two years of core training in general surgery and four years of plastic surgery training. The first year of the plastic surgery component could be flexible and might be devoted to a number of options which could consist of a further year in general surgery, another area of specialized interest or a basic research year.

In the United States, the American Board of Plastic Surgery lists a minimum of three years of general surgery as a prerequisite requirement prior to a two year plastic surgery component. For some years, the American Board has tried to increase the plastic surgery component to three years but this has been difficult due to financial restraints on residency posts and competition with other specialties.

Fellowship training

At present, there seems little doubt that additional fellow-

ship training in aesthetic surgery is an important component of overall education in this important field.

Three years ago, representatives from the ASPRS, the Residency Review Committee, the American Board of Plastic Surgery, the Association of Academic Chairmen of Plastic Surgery, the American Society of Aesthetic Plastic Surgery, and the Plastic Surgery Educational Foundation met for one-and-a-half days on the requirements of fellowship training in the various subspecialties of plastic surgery. It would appear that a full year of fellowship training would be necessary for craniomaxillofacial surgery, hand surgery including microsurgery, and perhaps burn surgery. The time of fellowship training for aesthetic surgery was discussed at length and most of those in attendance felt that somewhere between three and 12 months would be sufficient training, depending on the material presented and the participation of those undergoing the fellowship.

SUMMARY

It is my opinion that plastic surgeons, as a group, regardless of their subspecialty, continue to pursue excellence in their results. Residency training programs must be aware of the importance of the aesthetic component and all graduating residents must have sufficient experience in aesthetic procedures. As one involved in a training program, I consider it essential that all plastic surgeons with a special interest in aesthetic surgery maintain their hospital and university association in order to enhance this segment of our specialty. If some programs are deficient in aesthetic procedures, then program exchanges should be established for fulfilment of training requirements. Fellowships in aesthetic surgery following completion of residency should likely extend somewhere from three to 12 months.

Finally, for all residency programs and fellowships, it is essential that the team approach be followed so that the resident and/or fellow can actually participate in the surgical techniques and procedures in order to obtain experience in this difficult field.

REFERENCES

1. Breasted JH. (Edwin Smith Surgical Papyrus). Treatment of fractured noses. In: McDowell F, ed. *Ancient Egypt Source Book of Plastic Surgery*, Section II. Baltimore: Williams & Wilkins, 1973;54-64.
2. Carpué JC. An account of two successful operations for restoring a lost nose. In: McDowell F, ed. *The Source Book of Plastic Surgery*. Baltimore: Williams & Wilkins, 1977;91-101.
3. Roe JO. The deformity termed "pug nose" and its correction by a simple operation. In: McDowell F, ed. *The Source Book of Plastic Surgery*. Baltimore: Williams & Wilkins, 1977;114-20.
4. Ely ET. An operation for prominence of the auricles. In: McDowell F, ed. *The Source Book of Plastic Surgery*. Baltimore: Williams & Wilkins, 1977;346-9.
5. Luckett WH. A new operation for prominent ears based on the anatomy of the deformity. In: McDowell F, ed. *The Source Book of Plastic Surgery*. Baltimore: Williams & Wilkins, 1977;351-4.
6. Sichel A. Ptosis adiposa. *An D'Oc* 1844;12:187.
7. Fuchs E. *Textbook of Ophthalmology*. Philadelphia: JB Lippincott, 1924.
8. Miller CC. Semilunar excision of the skin at the outer canthus for eradication of crow's feet. *Am J Dermat* 1907;11:483.
9. Passot R. La Chirurgie Esthétique des Rides du Visage. *Presse Med* 1919;27:258.
10. Stevenson KL. The history of face, neck and eyelid surgery. In: Master FW, Lewis JR, eds. *Symposium on Aesthetic Surgery of the Face, Eyelid, and Breast*. St Louis: CV Mosby Co, 1972;13-21.
11. Lexer E. Zur Gesichtsplastik. *Arch Klin Chir* 1910;92:749.
12. Noël A. *La Chirurgie Esthétique*, Son Rôle Social. Paris: Masson & Cie, 1926.