

Dental Anesthesiology in Japan

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1. Why is the Department of Dental Anesthesiology Necessary?

In Japan, there are 29 dental colleges and university dental schools. Of these, 28 have a Department of Dental Anesthesiology. The chief is a dentist in 21 departments, and a physician in 6 departments. Duties of the Department of Dental Anesthesiology are systemic management of outpatients during dental treatment under sedation or monitoring, pain clinic, anesthetic management with general anesthesia, and basic emergency treatment within own dental hospital. Accordingly, the curriculum of dental anesthesiology for undergraduate students includes systemic evaluation of dental patients, methods of anesthesia, methods of sedation, pain clinic and basic emergency treatment. There are 13 staff members and 8 graduate students in the Department of Dental Anesthesiology, Tokyo Dental College. In 2000, systemic management during dental treatment was performed for 3,984 cases. Of these, 34% were medically compromised patients with a cardiovascular disease etc. and 29% were handicapped patients with mental retardation etc. and 18% had dental phobia. General anesthesia was performed on 1,584 cases. Of these, 91 were handicapped patients receiving dental treatment. Other patients underwent oral and maxillo-facial surgery. Sedation with intravenous propofol or midazolam under monitored anesthesia care was performed in 1,944 cases. The total number of pain clinic patients was 3276 and the stellate ganglion block was performed in 2786 patients.

Why is the Department of Dental Anesthesiology necessary in dental college or in university dental school? You may understand through the just-mentioned clinical cases that the dental anesthesiology is a specialized discipline in dental practice. The role of dental anesthesiologists during dental practice is to apply their scien-

tific knowledge and technique to provide a safe and painless dental treatment to all dental patients.

In Japan, the population of the elderly is increasing. The prevalence rate of diseases in the elderly over 65 years old is 65%, and cardiovascular diseases, mainly hypertension, are prevalent. In the dental clinic, usually pain and tension are imposed on patients. These stressors impede the homeostasis through the autonomic nervous systems. In the elderly with insufficient physical reserve, changes in the homeostasis exceeding the reserve, may cause severe emergent medical problems such as cerebral bleeding, ischemia of the heart and so on. During dental treatment, many dentists experience bradycardia and hypotension due to vasovagal reaction. Management of general condition during dental surgery under general anesthesia, and maintenance of homeostasis during dental treatment share a common concept.

General dental practitioners must safely perform dental treatment of patients with various medical problems. Dental treatment of the homebound elderly is at present performed by home visit or at the dental center run by a local dental association. General dental practitioners should be familiar with the principle of systemic management for the safety of dental patients.

In the undergraduate dental education, the method of local anesthesia, and also the systemic management including evaluation of the general condition of patients and prediction as well as avoidance of hazards, are taught to students in the course of dental anesthesiology.

2. History of Dental Anesthesiology in Japan

1) Japanese Dental Society of Anesthesiology

In 1963, the Department of Dental Anesthesiology in Japan was first established at Tokyo Medical Dental University School of Dentistry. At that time, there were

only 8 dental colleges and university dental school, much fewer than at present. At the Tokyo Dental College, the Department of Dental Anesthesiology was founded in 1968, and started with 4 staff members. Our main duty was to administer a general anesthesia for the oral and maxillo-facial surgery. With increase in staff members and also with the introduction of intravenous sedation with diazepam to Japan in 1970, our service was expanded to include management of outpatients. At the period of around 1960, oral surgeons in the dental school were trained at a department of anesthesiology in a medical school, and then practiced general anesthesia at their own dental hospitals. In 1959, Professor Hideo Yamamura, Faculty of Medicine, Tokyo University, began a dentist training of general anesthesia first. Accordingly, they were members of a team for anesthesia in oral surgery. This was the background of the Department of Dental Anesthesiology.

The Japanese Dental Society of Anesthesiology (JDSA) is going to celebrate the 30th anniversary in 2002. JDSA holds a general meeting every year, and more than 150 research papers have been presented every time. There are 2,050 JDSA members at present, and JDSA is one of the 16 member societies of the Japanese Association for Dental Science. Seeds of JDSA were sowed in 1966 when dentists and physicians engaging in dental anesthesia had the first gathering for discussion on dental anesthesiology. In 1968, the gathering for discussion developed to form the society for the study of dental anesthesiology, and in 1973, it became the Japanese Dental Society of Anesthesiology with 398 members.

Every year, JDSA publishes five issues of Journal of Japanese Dental Association of Anesthesiology.

2) System of the Japanese Board of Dental Anesthesiology

In order to give a board certification to dentists and physicians who are evaluated to be qualified to perform general anesthesia independently to dental patients, JDSA enacted regulations in 1975 for qualification by the JDSA. Candidates are required to engage full-time in anesthesia for three years, and to finish their training course of general anesthesia in 300 cases. At present (in 2001), 859

dentists have obtained the license. It must be renewed every five years. There are 122 instructors for candidates applying the qualification by the Japanese Board of Dental Anesthesiology. Most of them are dentists and physicians working at dental university hospitals.

3) International Exchange

In 1982 the Third International Congress on Dental Anesthesiology was held at Tokyo. The President of the congress was Prof. Yasuya Kubota. During the congress, Dr. Kwang Won Yum from Korea gave a speech at a symposium on the education of dental anesthesiology in Korea. During this Tokyo congress, it was decided to found the International Federation of Dental Anesthesiology, and since then the world congress has been held every three years at various places around the world. It will be held in Edinburgh in 2003, and Tokyo in 2006.

In 1994, JDSA and American Society of Dentist Anesthesiologist inaugurated Japanese and American joint symposium on dental anesthesiology in Boston. Since then the joint symposium has been held every two years alternately in Japan and in the United States. Last year, Japanese, American and Korean joint symposium was held in Sendai and Prof. Kwang Won Yum, Seoul National University and Prof. Doo Ik Lee, Kyung University gave a speech on outpatient anesthesia. Every year, Prof. Yum and Dr. Hyun Jeong Kim have attended to the general meeting of JDSA, and friendly relation between us and Korean anesthesiologists has been enforced.

CONCLUSION

Dental anesthesiology will remain an important discipline in the dental practice in future. For the progress of dental anesthesiology, the guidance and help of medical anesthesiologists are inevitable. Although medical practice and dental practice have been separated as independent systems, both must cooperate for the promotion of the health of nation. We hope a farther progress of dental anesthesiology in Korea, and welcome the mutual exchange between Korea and Japan to promote the progress of dental anesthesiology.