## LS 1-2 ランチョンセミナー I Luncheon seminar l



## Clinical anatomy of the face related to the filler injection& How can we prevent vascular compromise after filler injection

Hyoung Jin Moon, M.D., / Clinical Professor Navi Plastic Surgery Clinic Yonsei University Medical College

協賛:ガルデルマ株式会社

## ■Abstract

It has already been passed 10 years sice cosmetic surgical procedures using fillers has been introduced to Asia. The concept itself of 'filler' was unfamiliar, but the advantage that it is safer and effective gradually became well-known. Thus, it has recently become a representative procedure in the cosmetic surgery area. Filler is any material that can augment volume when injected into the body, and is usually an injectable material. Well-known fillers include hyaluronic acid products, collagen, paraffin, liquid silicon, etc. Fillers are usually classified by their components. Fillers can also be classified by their longevity: fillers with dur ation of less than 2 years are called temporary fillers, those with duration of 2 to 5 years are called semi-permanent fillers, and those lasting no less than 5 years after injection are called permanent fillers. In addition, fillers can be divided based on the mechanism of action, such as volumizing fillers and stimulatory fillers. Collagen and hyaluronic fillers in which the injected material itself constitutes the augmented volume are classified as volumizing fillers, and those which augment volume by stimulating fibroblasts to synthesize collagen or depositing fibrous tissues through inflammatory response are called stimulatory fillers. Most of the fillers introduced in Asia have a good safety profile. However, serious side effects such as granuloma formation or inflammation due to tissue reaction have been reported with several filler products, so it is necessary to select the desirable filler by understanding the characteristics of each product. The ideal filler should have no tissue reaction, is long-lasting, safe and easy to use, and have no intra-tissue migration or allergic reaction. Facial cosmetic surgery using filler can only be successfully performed if the surgeon has a good understanding of anatomy and is able to select the appropriate product for his purposes. Anatomically, the face is the most complicated structure of the human body. Especially, the structure of facial muscles including nerves and vessels is very variable and has the racial differences. Recently, the importance on the facial anatomy has been reconsidered as the interest on the

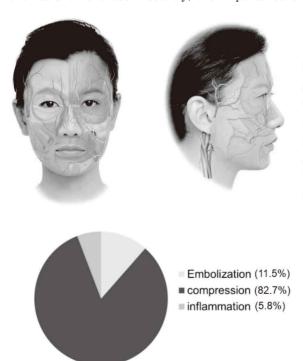


Figure 1.

facial aesthetics is increasing. The aesthetic physicians should understand the anatomy of the facial musculature. Through this lecture. I would like to show the anatomical characteristics and the individual variations of the face related to the filler injection for the safe and efficient clinical applications. To avoid the serious complications after the injection, the detailed vascular anatomy of the face is essential. In this presentation, I would like to show (1) the whole running courses of the facial artery (FA) and superficial temporal artery (STA), (2) the origin and nature of the angular artery, (3) the layered location of supratrochlear and supraorbital artery at the forehead, (4) the vasculatures of the nose, and (5) the courses and distribution patterns of the labial artery around upper and lower lip. In every items of my presentation, the clinical importance of each area will be raised. Vascular compromise can be largely divided into intra-or extravascular causes. Intra-arterial injection of filler is rare but disastrous. Extravascular causes include external venous compression due to excessive volume of injection, or edema and inflammatory response caused by a component of the filler. Manifesting symptoms differ according to each cause. Of 52 patients who were referred to my hospital for dermal necrosis after filler procedure since 2006, 6 cases (11.5%) were

caused by intra-arterial injection, 43 cases (82.7%) were caused by venous compression, and 3 cases (5.8%) were dermal injury caused by edema and inflammatory response (Figure 1). During the presentation, I will explain why vascular compromise develops and how we can prevent it in detail.