DHA successfully saves patients jaw using 3D printing

By Sinterex

DUBAI, UAE: Experts from Dubai Health Authority, PHC Dental Center, and Rashid Hospital have combined with 3D printing healthcare startup Sinterex, to save the jaw of a patient who had an aggressive tumor.

The patient, a 17-year-old girl in high school, was admitted to hospital after discovering she had a large, fast-growing tumor of the right jaw. Dr. Khalid Ghandour, Maxilofacial Surgeon at DHA, said that the patient was diagnosed with Ossifying Fibroma, a particularly aggressive form of tumor, which meant that the right side of the jaw had to be removed.

It was at this stage that Sinterex became involved. Sinterex is a UAE-based start-up specializing in customized 3D printed healthcare products. Managing Director, Julian Callanan, explained that given the aesthetic implications and complexity of the case, it was critical to use digital planning and 3D printing to create a patient-specific solution.

The workflow started with the patient’s CT scan, which was segmented and converted into a 3D printed physical model. This model allowed Dr. Khalid Ghandour, and his team of surgeons, to visually inspect the patient’s situation and to develop a treatment plan. After finalizing the treatment plan, Sinterex 3D printed a Surgical Guide, which was fitted to the patient in the operating theatre to ensure that the surgeons drilling, and cutting, are guided with precision. Finally, a patient-specific implant was 3D printed in bio-compatible medical-grade Titanium.

Dr. Khaled Ghandour stressed the importance of utilizing 3D printing in medical care by saying: “In maxillofacial surgery we are working in an area where both aesthetics and function are important and operating conditions challenging. 3D printing models help us better visualize the patient’s situation, whilst 3D printing Surgical Guides and Patient Specific Implants allows us to translate plans into reality.”

Dr. Mohammad Al Redha, Director of the Department of Organizational Transformation at the DHA said that this is just one further example of how the DHA has successfully used 3D printing. Other recent examples include 3D printing a prosthetic leg, removing a cancerous growth from a patient’s kidney referencing a 3D model, and saving the life of a patient suffering with cerebral aneurysm.

Dr. Al Redha said that the DHA is planning to further utilize 3D printing in medical care in line with the Dubai 3D printing strategy – a unique global initiative that aims to exploit technology for the service of humanity and promote the status of the UAE and Dubai as a leading hub of 3D printing technology by 2020.

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