Skeletal anchorage in the early twenty-first century

Greek physicist, mathematician and inventor Archimedes (287b.C. - 212b.C.) played a vital role in several areas of modern science. In the field of physics, he discovered the principle of the lever and allegedly asserted, "Give me a lever and a fulcrum and I can move the world." A solid fulcrum is every orthodontist's greatest desire, an anchor point with which teeth can be moved according to orthodontic planning.

Edward Hartley Angle, in turn, taught us in 1907 that anchorage can be simple, stationary, reciprocal, intermaxillary and occipital. In his writings on the subject he revered Isaac Newton, whose birth on December 25, 1642, in the Julian calendar, was a gift to mankind. His third law - "For every action, there is an equal and opposite reaction." - is part and parcel of daily orthodontic practice. Although in orthodontically induced tooth movements force action is usually welcome, reaction may not be as desired and in these cases the advent of anchorage opened new therapeutic horizons. With the aid of miniplates and mini-implants we can safely perform tooth movements in the vertical, transverse and anteroposterior planes, often avoiding undesirable side effects.

Nevertheless, even though skeletal anchorage has cemented its role as an alternative treatment in modern orthodontics, its use can still be considerably expanded. New therapies emerge continuously, providing better treatment outcomes as evidence of their effectiveness mounts.

Conversely, a fault could possibly be found with these therapies for their tendency to combine anchorage with traditional treatment resources. Current orthodontic appliances were developed over the years and geared towards conventional orthodontic mechanics. Attempting to make them functional in combination with skeletal anchorage can be a daunting task.

Another factor clouding the vision of current and future anchorage applications is the tendency to infer possible treatment outcomes from those already achieved by traditional therapies. And to further complicate matters let us not forget our long-established orthodontic foundations, essential for orthodontic learning and practice.

These hurdles will be surmounted in due course, as publications shed light on the subject and evidence-based findings start to substantiate tested hypotheses.

The intent to clarify some of the recent advances in this field has motivated us to organize a special issue celebrating the 12-year anniversary of the Dental Press Journal of Orthodontics and Dentofacial Orthopedics by focusing exclusively on this topic. This issue, therefore, brings to our readers the clinical experience and scientific knowledge of Dr. Kyung and renowned Brazilian authors. We feel certain that the content will prove fruitful for everyone.

Jorge Faber
Telma Martins de Araújo
Editors