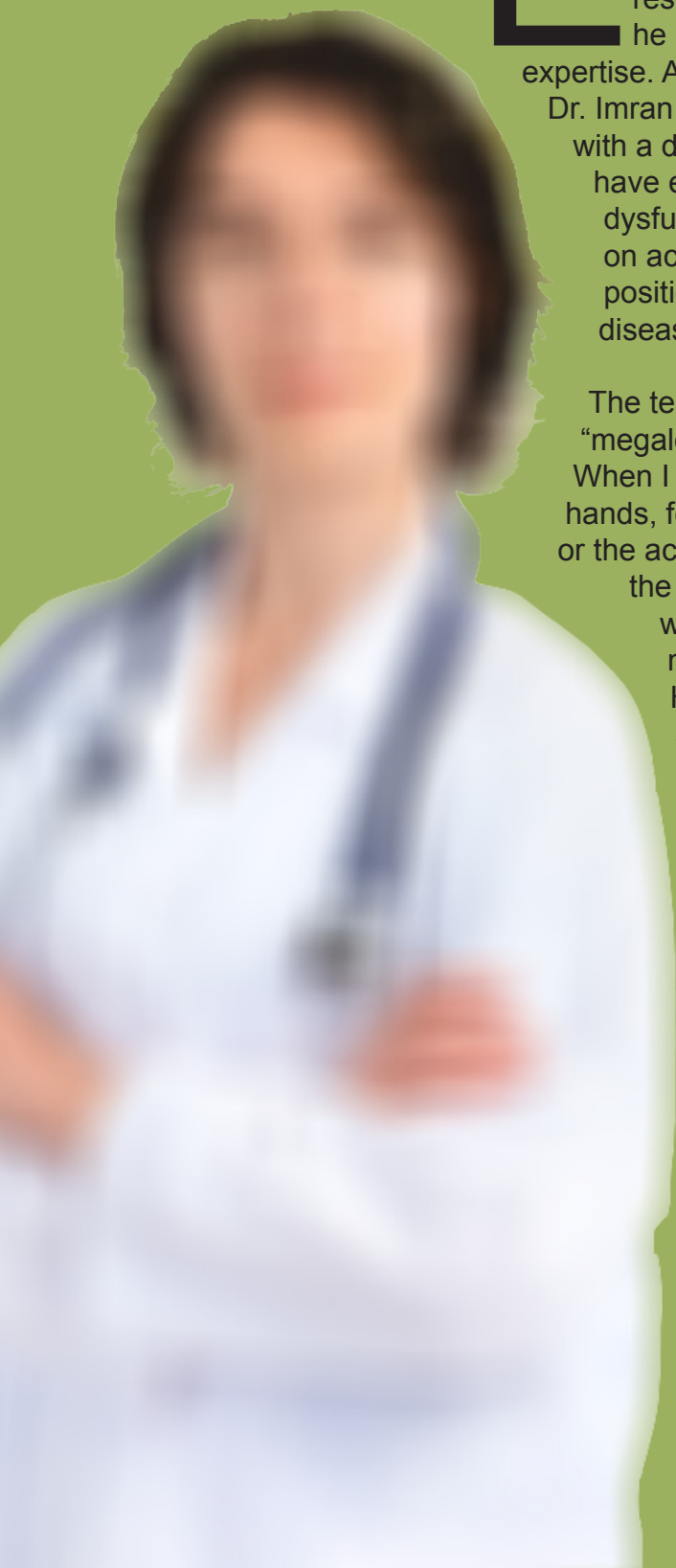
Clinical Affairs with Dr. Terry Ackles

The Dentist's Role in Early Detection of Acromegaly



Earlier this year I had the opportunity to speak with Dr. Ali Imran, an Endocrinologist and Professor of Medicine, at Dalhousie University. Dr. Imran's primary clinical and research interests are pituitary and thyroid disorders and he has published several research papers in areas of his expertise. As co-directors of the Halifax Neuropituitary Program both Dr. Imran and his Neurosurgery colleague Dr. David Clarke, along with a dedicated team of nurses (Lisa Tramble and Andrea Hebb) have established a center of excellence for patients with pituitary dysfunction and are nationally recognized for their expertise on acromegaly. It is his opinion that dentists are in a unique position to play a prominent role in the early detection of this disease.

The term "acromegaly" comes from the Greek words "akros" and "megalos" which translate roughly to "extremities" and "large". When I think of acromegaly, I envision a bigger man with enlarged hands, feet and facial features like the wrestler, Andre the Giant, or the actor who portrayed "Jaws" in the James Bond movies. To the best of my knowledge I have not treated any patients with acromegaly; however, I do have an acquaintance of more than 30 years who was diagnosed with the condition. Hindsight is 20/20 or so they say; thinking back, there were subtle changes to the face (I associated them with age), the fingers looked thick and knobby (I thought they had arthritis), their voice was deep and raspy (from smoking, I assumed) and she often commented that her snoring was so bad it kept everyone awake. I was somewhat surprised because "she", a woman of very small stature, did not look at all like the stereotypes I had in mind. My lesson learned – keep an open mind.

The prevalence of acromegaly is estimated to be 50-100 cases per million population and is usually the result of a benign pituitary tumour causing excess production of growth hormone (GH) resulting in an increased liver production of a protein called Insulin-like growth factor-1 (IGF-1). Consequently, if this condition occurs before the normal growth has ceased then the individual can become excessively tall but once the growth plates have fused then the bones and soft tissue would continue to get thicker. Treatments may include surgery, radiation and pharmacology and as with most diseases, the prognosis is more favourable

with earlier detection and therapy, while uncontrolled acromegaly is associated with early mortality. Unfortunately, due to the insidious nature of the disease the diagnosis may be delayed by 10 -15 years in most patients by which time the person may suffer from a number of other associated systemic conditions such as diabetes and hypertension.

The physical changes in appearance develop slowly over many years and often go unnoticed by friends and family who see the person regularly. Recognition of some of the early features of acromegaly may be where the dentist may play a crucial role. Some dental offices take photos of patients as part of their patient record; perhaps for example, for privacy concerns when two patients have the same name or, for “before and after” treatment photos. These records could prove valuable for comparison purposes in the future especially if the dentist finds other indicators of acromegaly. Whether a patient is new or returning to your practice, you probably spend some time reviewing the medical history and asking if they are having any problems. Patients may complain of “bite” problems or chipped teeth, issues with food getting stuck in spaces between their teeth, snoring or sleep apnea, or poorly fitting dentures. Extra-oral and intra-oral examination **may** reveal frontal bossing, a prognathic mandible, thickened lips, an enlarged tongue, a Class III occlusion, an anterior open bite and/or splaying of the lower anterior teeth. Depending on the type of radiographs acquired you **may** see an increased gonial angle, an increase in vertical bone height in the mandible and/or hypercementosis associated with mandibular posterior teeth. A patient visiting an orthodontic office to have their teeth straightened will have a Cephalometric radiograph which **might** reveal an enlarged sella turcica. As with photographs, comparison of current radiographs with previous films could be useful. If a patient is new to your practice then obviously it’s not possible to compare previous findings, however, a medical history that includes diabetes and/or hypertension and/or sleep apnea along with some of the dental findings should cause a red flag to go up.

If you suspect acromegaly then you should discuss this possibility with the patient and their physician. Dr. Imran suggests the best single test to determine the diagnosis of acromegaly is the serum IGF-1 test. Serum IGF-1 levels are elevated in patients with acromegaly and such patient should be referred to endocrinology for further assessment. Once the chronic disease is controlled, any required or requested dental treatments can be coordinated by the medical team with an orthodontist, an oral surgeon and/or the dentist.

Although acromegaly is referred to as a rare or uncommon disease, Raven Glasgow, the Neuropituitary Program Coordinator at the QEII’s VG site, reports they see an average of 3-5 new acromegaly patients per year from the Atlantic Provinces. Neither preventable nor curable, this disease is controllable. With an increased awareness and the ability to recognize early signs and symptoms of acromegaly, dentists can assist in an earlier diagnosis, treatment and hopefully better prognosis for our patients. As health care providers, we have a responsibility to help contribute to a better quality of life for patients with acromegaly.

References available on request.