Simple tooth to illustrate as closely what happens clinically with the Plain's technique! canal preparation.

The canal was large to start with so there wasn't too much additional shaping necessary.

The WL was 23.5 mm as determined by the #20 file on visual examination.

The constriction was #40 LS patent.

The #50-#60 LS were taken to 23.5 mm. 3-4 hand turns and some apical pressure of the LS were all that was needed to advance the files to WL.

Notable on the radiograph is the shape of the capture zone very easily created by the LightSpeed files.

Even though the foramen was relatively large, the walls were very lightly coated with sealer on a paper point and sealer was placed on the GP cone a' la Gary C there was no apical extrusion of sealer or advancement of the cone. I believe this was due to:

1- the very intimate fit btwn the canal walls apically and the GP cone.

2-the excellent shape of the capture zone

No effort was made to have a continuous specified degree of taper from the constriction. The size and degree of taper was dictated by the canal shape itself.

A 60% Hypaque meglumine preliminary obturation was done to demonstrate canal shape prior to actual obturation. If you look closely you can see hints of the lateral canals.

I think I may clear this tooth for final inspection unless there's something else we want to do before that. I placed the obturated tooth in a bottle of water awaiting further study.

How does the Plain's technique! hold up under scrutiny? Please don't be kind. I want to perfect this technique. I'll be doing some more bench-top studies on this canal preparation technique. I'll do some more complicated canals.

Again, your thoughts please.

Introduction

Thank you for closely studying the radiographs and bringing fine detail like this to my attention. I agree that the canal looks large apically. What I have noticed on numerous extracted teeth is that the **Minimum Apical Canal Diameter is very frequently quite a bit smaller than the foramen**. I think that Senia has give averages of the constriction sizes -vs- foramen sizes. While I think that you must **treat each tooth as an individual one and not make the assumption that the 'average' tooth is the individual tooth**, I believe that he correctly observed the sometimes marked difference btwn these two entities.

Discussion

As far as the size goes for this tooth, all I can tell you is that even though it might appear that the canal is larger than it proved to be it was that measured size-I could only pass a LS#40 through the constriction with firm apical pressure. The LS#45 could not be pushed through. Now I could have purposefully instrumented it through but did not. In fact I could have made the canal round right through to the foramen

(as seen here) but did not. I have chosen to instrument the canal as I have previously described and determined this is the point at which to stop. Others might have chosen to advocate, "Go through the constriction two file sizes larger develop a capture zone and taper from the bleeding point, .05mm back from the bleeding point or whatever." I am trying to develop a technique from already well-known and non-original concepts. It may be that I am slow and am discovering what everybody else knew all along. In the end it is the excellent reproducible results of a particular technique that makes it the one to adopt. So far, the concepts of the Plains technique seem to be applicable to patients. I can tell you that I have never, ever been so aware of length control, apical tactile sense and apical shape. This is hopefully going to translate into better clinical results.

Summary

Some things that I have learned from this endeavor will be invaluable to me no matter where it ends up. Whether Gary, or anyone, agrees with my findings or conclusions and the applications thereof I give him credit for the inspiration behind my search for the truth-I want to see it for myself and know for myself. Some of the things that I have learned so far from this pursuit are:
1-the foramen size and constriction size are frequently two very different sizes
2-it is possible to consistently feel the most constricted point in the canal apically
3-a bleeding point length determination is easily determined
4-LightSpeeds can enlarge the constriction to the size of the foramen (or larger) and not elliptisize the foramen
5-adequate apical canal resistance form (fondly referred to as Apical Capture Zone) can be easily and reproducibly created using LS instruments

6-cone fitting of standardized and non-standardized master cones is much easier than with any technique I have yet used; bent and crinkled, crumpled and bent mastercones are virtually a thing of the past
7-I'm certain there are others I have not thought of and others that I will discover the more that I work at the bench