

Trunking More Successfully than the Gow Gates technique

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1. Case Report

My experience with the truncal arteries, I don't trust soft tissue or bone. When anesthetizing you have to assess the technique to choose so as not to fail, for this I recommend assessing the panoramic of ray x and palpating the branch (rarely can it be felt). When observing the oral cavity, soft tissues such as the tongue and jugal mucosa must be assessed. I personally usually use a technique that is similar to Gow Gates, but taking other references, I palpate the ascending branch with one hand (I usually do it with my index finger and thumb), I observe the position with respect to the anterior and posterior edges of the ascending branch of jaw, the location of the spine of Spix, and I also assess the height at which the dental nerve enters the jaw taking as a reference the occlusal plane and then puncture behind the nerve entrance. Bone and soft tissue aberrations (variations that affect the success rate of different techniques due to the fact that the tissues vary greatly among many patients) are avoided, with soft tissue aberrations being the most frequent and these variations influence us to fail in some classically described techniques. I usually use a panoramic in which I observe the position of the spine of Spix and the entrance of the dental nerve with respect to the occlusal plane and with respect to the posterior and anterior border of the mandibular ascending ramus and then be able to point in the mouth after palpating the ascending ramus with one hand positioning the fingers parallel to the occlusal plane and being able to point. I usually aim about 3-5 mm behind the entrance of the dental nerve and at the same height to reduce the risk of puncturing the nerve and causing pain to the patient. If you do not have a panoramic view at your disposal, you can prick more or less in the middle part (preferably 3/4 posterior) of the bone or even a little more posterior because anatomical aberrations of soft tissues are more frequent than bone aberrations, although it is also necessary to avoid being traumatic when anesthetizing the patient, that is why I do not like a technique of pricking the spine of Spix, to blindly locate the (from my point of view) branches, both dental and lingual and buccal when removing the needle, a third or a quarter of anesthetic can be inoculated. The location of the spine of Spix, and also the entrance hole of the nerve in the radio diagnostic, is observed, although if it is not available, normally the spine of Spix, is usually between the middle of the ascending branch and 2/3 posterior, according to some anatomy books (some appear that the spine of Spix, is always between the middle and 2/3 of the spine), although in anatomy these positions can vary a lot, it is because I have Ascending branches with Spi's spine detected at 5/6 posterior, being the most logical to point with the needle there, it can be found depending on skeletal pattern up to 3/4 or more posterior of the ascending branch the Spine's spine of Spix, especially in classes 3. But it is very rare. Although the canal does not always enter at the height of the references taken in the bu-lin-Dent technique, it is used to use the finger on the occlusal plane. That is why you have to know how to choose the technique when there is macroglossia, I usually use Gates' because using as a reference the palpation of the anterior and posterior border I have only one hand left to anesthetize that prevents me from being able to separate the tongue with the mirror, but many times tapping with the needle it gets the tongue to go down because I do not like to prick the spine of Spix since it bothers the patient, that bothers many surgeons They don't care so much although it is true that for conservative or even scraped I think that you have to be as less traumatic as possible with the patient. I have realized that other techniques can be

used such as Akinosi's (technique that I have not used) but I will, throughout my short experience (20 years) I have observed that sometimes not even the extraoral one would be effective because the spine of Spix, as I have mentioned before, could be located in a more posterior position. What I usually do afterwards should be palpated with the thumb the anterior edge of the branch and with the index finger the posterior edge, if it is the branch it is the right one observing the patient from the front and sitting. Because that way I orient myself better, although I have sometimes done it lying down. Although for the left branch I put my left arm behind the head to palpate the anterior edge with my index finger and with my thumb the posterior edge. I personally rely on the radiological observation of the mandibular foramen (nerve entrance duct to the mandible of the lower dentary) since it is located in the panoramic or other radiodiagnostic such as CBCT, CT, etc. After locating the edges, you have to make a three-dimensional assessment of where the nerve entrance is located to be able to infiltrate the needle at the desired point to anesthetize, if you have a lot of aim you have to be careful because it is very common to puncture the nerve, I have sometimes had up to four discharges, two inlet and two out, and I think it is best to puncture close, Because sometimes puncturing the nerve is a nuisance and can produce very uncomfortable paresthesias for the patient even without inoculating anesthesia. I always warn the patient that if he notices a discharge, he should raise his left hand so as not to infiltrate the anesthetic into the nerve, as it could leave sequelae to the patient, which can even produce permanent anesthesia, which is an irreversible task that could lead to a lawsuit in some countries. If the aim that the expert has is very good you have to get closer, if it is not so good you have to aim as close as possible (Always a little more posterior than the foramen, and not too high to avoid pricking the facial, I usually like to prick just at the height of the foramen 3 mm from behind and so you don't puncture the nerve and take the trunk about a minute. It should be warned beforehand that if you notice discomfort or a discharge, the patient should raise his left hand to remove the needle a little and never inoculate into the nerve. Do not forget that the anesthesia is better at a temperature of 37 degrees so that it hurts less, I do not usually leave the carpules for more than 3 hours, you just have to temper it before use. warm water in a glass or there are also thermoses with temperature control for children. The needle is also important if it is too flexible in some branches the soft tissues can displace it and thus fail the technique. When you have a good feel and are concentrated, you can usually tell if the needle is deflecting so I like them with a little but not with much flexibility. The tooth is easy to puncture, although the lingual may not be so close and could fail, while the needle is removed the buccal can also be numbed as in techniques already described above. I find it a simple and effective technique for general dentistry and surgery. I usually place the syringe between the first molar and second premolar depending on the shape of the ascending branch since in some cases the posterior edge is much more lateralized than the anterior edge in those cases I prick from the first molar on to in cases of wide ascending branches, cases in which the ascending branch has the posterior border more lateralized than the anterior border if the branch is wide and with Spix's thorn much later, the references described by Gates are not reliable (in some you could prick almost a cervical spine, as a joke). This being more variable than described in the techniques and with a jugal prolapse, the Akinosi technique is sometimes complicated. Although if you have poor aim the dentist could fail more

often, although there is no excuse of anatomical aberration of any kind with the lower dentary. You also have to take into account the height, which is usually at a height of half a finger above the occlusal plane, although there are exceptional cases, such as the one.

2. I Show, Which Can Be Around Two Fingers High

My approach is from the opposite side to the ramus, usually placing in the second premolar. I don't know if they do it somewhere, but I came up with it in 2005. And it has gone better than with the Gates technique that failed me 1 in 10 or 20 depending on the patients and luck. My observations may be due to what I have observed, although it does not mean that there may not be other experts with different observations in some respects. Much of my short career as a dentist has been practiced in a region called the Basque Country where the percentage of skeletal classes III are more frequent in the world behind Japan. Anthropology and skeletal growth have a different factor in different parts of the world, which is why I came up with this technique. Among the Basques I have found disparate growth in terms of the shape of the ascending branch and I think it could be due to the fact that there were different migrations from possible Phoenicians, Celts, Greeks, etc... Sometimes, without radiological diagnosis, you can palpate the anterior and posterior edges of the branch and imagine a straight line parallel to the occlusal plane, and if when you prick you notice that it hits you before the line, it is that you have pricked the spine of Spix, so I usually remove the needle a little and insert it posteriorly. I'm not talking about some other techniques that I don't usually use. As for the comfort of the patient, in some cases that have to be pricked from more posterior than the second premolar, the patient can be told to close his mouth a little so that the lips relax and not be too bothersome for the patient. As for other techniques described by other authors, they are less reliable than the two described by me and Gates, with higher failure rates than those described by me. The one with the panoramic ray-x came to me in 2005 in March, but there is another professional who officially described it before me on the internet at school, that's why I mention him and his name is Claudio Albisu. The important thing is to move forward and improve. The direct technique of the dentary that determines that it is necessary to prick 2 or 2.5 cm from the anterior edge of the ascending branch is not very reliable because there are branches that are wider than 7 cm. I think it's ridiculous to standardize. references when in anatomy nothing is 100% predictable, it's like going blind many times. In spite of everything, by pricking without radiodiagnosis, you can achieve a success rate of around 98% by pricking 3/4 posterior and half a finger above the occlusal plane. What's more, with a radiodiagnosis in front of you have the possibility of having more data on the point at which you have to anaesthetise.

3. Limitations

The limitations of the trunk technique that I am describing, although I have not read anywhere like this. They are mainly macroglossia, limited mouth openings, small lips or very thick jugal mucosa, especially in patients with morbid obesity. I have observed throughout my professional career that some pathologies can induce a different growth of the anatomy, highlighting Down syndromes, although I do not rule out that this technique is useful for them and for other types of people with diseases that affect the bone growth of the person. Personally, my success rate is over 98%, the worst year, which by the way was last year from using the technique described. The norm in recent years has been a failure of less than 1%. Failure is not called failure to anesthetize these branches. I always tend to cool down these problems with antibiotics in cases of pulpitis and infections. My record was more than 500 consecutive teeth having failed a lingual. Although it is also true that sometimes I will not sleep the three nerves and I only go for the dentary and lingual, especially in wisdom tooth extractions since I like to anesthetize subperiosteal in the flap area. In some publications of high-level surgeons they speak of a failure rate between 10-20% (Cosme Gay, Escoda and Berini) while others speak of 15% with the Gates technique. Also mention the technique of the mandibular orifice that must be evaluated with a radiodiagnosis to have a high precision.

Advantages of an effective anesthetic technique:

1. Shorter time for the anesthetic to be effective:

-It allows us to have more time to perform the treatment -The patient does not go twice or several times for the puncture that in some cases

produces dental anxiety.

-It allows more profitability in the treatment.

2. Longer anesthetic effect time:

-The closer the inoculated anesthesia is to the nerve, the greater the optimal amount of time for work.

3. Less anesthetic used:

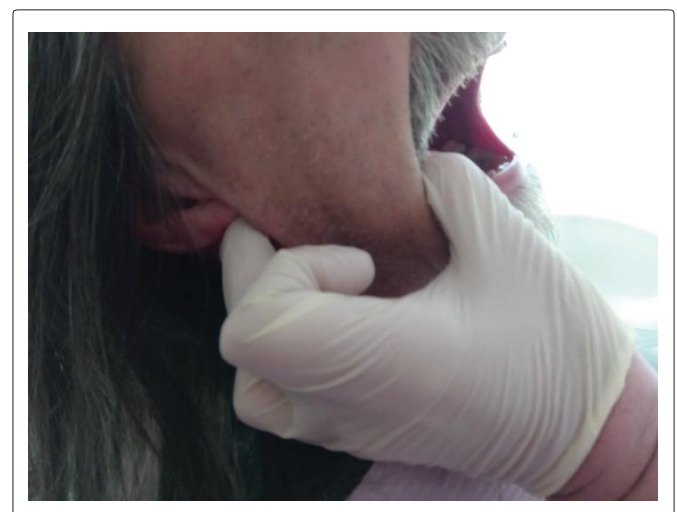
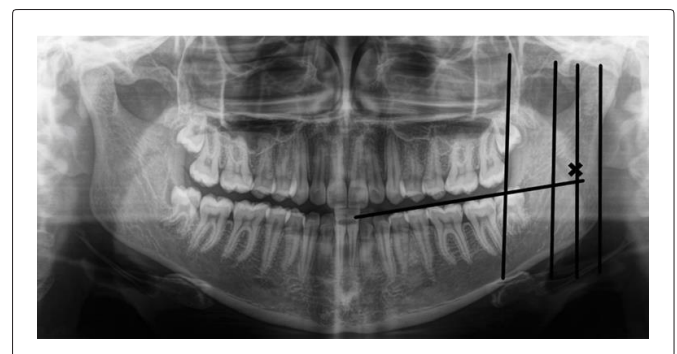
-It is especially necessary in special patients in whom the recommended safety doses are usually lower, such as the amount of epinephrine or adrenaline.

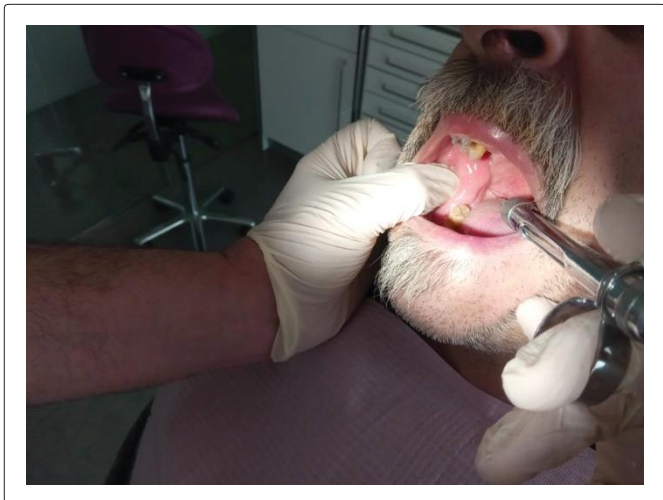
-The cost of anesthesia is less relevant, although it is also saved economically.

4. In some cases the intraligamentous technique can be used with the electronic anesthesia device, although for some treatments I find it more annoying and even cumbersome. The truncal ones still seem to me to be the choice for some treatments:

- Periodontal treatments such as scraping and wisdom tooth extractions included.

It is likely that with current and future technologies it will be possible to target more safely. Maybe infrared could be useful in the near future, since I'm not very up to date on this technology that is used to observe vessels. Infrared and laser use show where the arteries and nerves go (it is well known that arteries and nerves form the nerve vessels) with these technologies the vessels are observed up to a depth of between 2-3 cm. It's an idea that crossed my mind. It is likely that a tool that presses the artery will be needed so that with the infrared we can observe the vessel, and knowing that the nerve is stuck with puncturing nearby would be enough. Infrared lasers from my point of view could be used not only to draw blood to remove LPRF or other factors. They could also serve to reduce the risk of damaging the palatal artery when extracting a connective graft in the palate or even to reduce the risk of nerve damage when making incisions in very atrophic jaws, to reduce facial nerve damage to 0% in arthrocentesis and not only for truncal arteries. They need to make devices that can be used to get the most out of the oral cavity because they are very large.





I show, which can be around two fingers high.

