Nerve and faset block as viable alternative to the surgery

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INTRODUCTION

Painful spine conditions are one of the most common reasons to visit practitioners. Some of those patients are candidates for surgery, but there is no definite line between surgical and non-surgical patients.

Modern surgery shifts from major, open procedures towards minimally invasive interventions, because open spine procedures many times are comprehensive, long lasting, risky, and can have very hard revisions.

It seems that in last decades needle procedures in spine surgery developed more than in any other field of medicine, becoming the most common spine interventions.
Each needle procedure has its own indications and technique. Selective nerve root blocks - SNRB and facet blocks - FB are excellent methods for temporary pain control (2-6 months), and even better for determining of pain source, which is of uttermost importance in surgery planning.

They have proven themselves as a very useful therapeutic and diagnostic methods, many time as a definitive solution, but some of them are under debate.

Aim of our work is to present effectiveness of nerve and facet blocks in surgical candidates.
PATIENTS AND METHODS

Including criteria were: painful spine conditions unresponsive to non-operative treatment (drug and physiotherapy), X-ray, CT or MR positive imaging findings, SNRB or FB performed during last three years on our Spine dept.

Excluding criteria were: sensor/motor deficit, lack of positive clinical answer on at least two previous needle procedures, or strong contraindication for needle procedure (traumatic fracture, solitary tumor, infection, etc).

Depending of comprehensive clinical exam and imaging tests, we decided to perform needle spine intervention instead of open procedure, whenever it was possible.
During the last three years (01.09.2011-01.09.2014.) under C arm control and without general anesthesia, we performed totally 197 SNRBs and FBs:

- 157 SNRBs (129 sciatica, 5 L5-S1 discopathies, 23 brachialgias),
- 16 FBs (14 lumbal syndrome, 2 cervical sindrome),
- 24 diagnostic blocks - DB (14 failed back surgeries, 10 unclear spine conditions with dissonant clinical and radiological findings).

We have analysed its clinical results in pain reduction, its overall effectiveness in avoiding of surgery / controlling the symptoms.
Example 1.
SNRB of right L5 for L4-L5 herniated disk with irritation of L5 nerve root.
Example 2.
Bilateral S1 SNRB for axial back pain related to the diskarthrosis L5-S1.
Example 3: Legg pain/claudication is typically caused by compression of roots in concave side of apex; SNRBs of L3 and L4 root on concave side of the main curve, and L5 and S1 root on concave side of lower “fractional” curve are helpful for longer periods.
Example 4:
SNRB of right C6 root; compression caused by herniated cervical (clinical and MR findings).

Example 5:
Previous back surgery and bilateral THR, clinical finding is intractable left buttock pain (hip spine syndrome); SNRB of left L5 root, to exclude symptoms caused by its compression.
Example 6. Repeating bilateral SNRBs of L4 roots might control symptoms of degenerative L4-L5 listhesis; patient with comorbidities not suitable for major surgery.

Example 7. Left L5 SNRB controls symptoms after this failed back surgery.
RESULTS

Average follow up was 15,4 months (ref. date 08.09.2014.).

- 123 of 157 pts. (78,3%) had positive clinical answer on SNRBs, only 16 pts. had open surgery (10,2%).

- 10 of 16 pts. (62,5%) had positive clinical answer on FBs, only 2 needed an open surgery (12,5%).

- 17 of 24 pts. (70,8%) had positive/conclusive result of diagnostic block.
DISCUSSION

Totally 153 of 197 pts. met clinical or diagnostic expectations or, overall effectiveness of SNRB and FB was 77.7%.

It is very important to perform detailed clinical exam and imaging, and be aware of natural history, indications and limitations of each procedure. Generally, practitioner has to have a huge clinical experience in spine, to be familiar with the open procedures, and especially to be experienced in radiological anatomy.

Such approach increases success rate of those interventions, which can be a valuable alternative to the classical methods of drug, physical and surgical therapy.
More often, the spine injections serve as a “maintenance” or at least “postponing” procedures, like SNRBs in radiculopathies and FBs in fastearthropaties. Blocks are procedure of choice in a patient with comorbidities, ineligible for major spine surgery. Those procedures can not for sure, and forever avoid open procedures, but with repeating blocks each 2-12 months, many time they can effectively control the symptoms. In the meanwhile, natural history might solve the situation (spontaneous fusion, fibrosation of herniated disk, etc.).
Irrespective on magnitude of therapeutic efficience, spine blocks always posses theirs diagnostic value, especially in situations when diffuse degenerative changes mimic the true source of pain (hip-spine syndrome, etc.).

Needle spine interventions definitively shoud be in armamentorium of spine surgeon, providing him solutions/alternatives in situations when he is indecisive about type of intervention.