EP092 A PROSPECTIVE EVALUATION OF PERCUTANEOUS VERTEBROPLASTY IN OSTEOPOROTIC VERTEBRAL COMPRESSION FRACTURE PATIENTS

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Background and Aims Osteoporotic vertebral compression fracture (OVCF) is a problem causing incapicating pain, disability and mortality. Percutaneous Vertebroplasty (PVP), a minimally invasive procedure, has resulted in immediate pain relief with decreased morbidity. Primary aim was to evaluate the quality of life (QOL) by the RMDQ (Roland- Morris disability questionnaire) Score and pain relief by 11 points NPRS (Numeric Pain Rating Scale) and vertebral height restoration and Wedge angle measurements after Percutaneous Vertebroplasty (PVP)

Methods This prospective longitudinal interventional study was conducted on patients with low back pain due to OVCF. These patients were managed by PVP and followed at one week, one , three and six months for improvement in quality of life (QOL) by RMDQ Score and pain relief using the NPR scale. The pre and post-vertebroplasty wedge angle and vertebral height at one week and six months were also compared by pre and post-vertebroplasty lateral view skiagrams.

Results

Twenty-four patients were included The RMDQ score showed a statistically significant difference in post-PVP at one week (p=0.044), one (p=0.031), three (p=0.022), and six months (p=0.018). There was a statistically significant difference in the NPRS at six months showing drastic pain relief after PVP. The mean wedge angle (20.5±2.07) measurement was reduced with a statistically significant increase in anterior body height restoration from pre-PVP to six months. There was no significant change in height at the middle and posterior columns compared to Pre-PVP height.

Conclusions PVP is safe, minimally invasive pain intervention (MIPSI) for OVCF with improved QOL and restoration of vertebral height.

EP093 THE FLACC BEHAVIORAL SCALE FOR POST-OPERATIVE PAIN: VALIDITY AND RELIABILITY IN CHILDREN OF MORE THAN SIX YEARS OLD

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Background and Aims The evaluation of the postoperative acute pain (PAP) is sometimes difficult in children more-than-six-years- old, such as the visual analogue scale (VAS). The objective of this study is to assess the existence or not of a difference in the scores obtained by two evaluation scales at the same time.

Methods This is a prospective study which includes children who had limbs surgery. In order to identify patients 'difficult to be evaluated' during the first 24 hours of the post-operative phase at: H0, H4, H8, H12, H18, H24. self-assessment of pain combined with the behavioral pain assessment scale were proposed at the same time to patients (VAS and FLACC ¬[Face Legs Activity Cry Consolability]). The data was analyzed by the SPSS '20' software program. The threshold of significance was 5% (P < 0,05). An intra-category correlation test was realized between the two above-mentioned scales.

Results 355 patients were included in this study. The average age was 9,29 ± 4,13 years. The average of the postoperative pain scores were 1,03 ± 1,61 for the VAS and 0,48 ± 1,23 for the FLACC. We also found that the intra-category coefficients were stated between r = 0,79 and 0,81 with a very good reproducibility of the two scales.

Conclusions These results sustain the possibility of using the FLACC scale as reliable instrument in case of doubt regarding the VAS obtained score in more- than-6-years-old children.

EP094 PERCUTANEOUS DISC DECOMPRESSION WITH EUTHERMIC LASER. A FOLLOW UP CASE STUDY

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Background and Aims Percutaneous disc decompression with laser is indicated in cases where increased intradiscal pressure is identified as the main etiology of discogenic low back pain. These techniques include percutaneous disc decompression with euthermic discolysis with Holmium YAG laser (Discolux®). This reduces the compression of the nervous structures and decreases the stimulation of pain receptors, thus achieving an analgesic effect. Technique is indicated in patients that keep the nucleus pulposus hydrated (Pfirmann I-III). Extruded or non-contained hernias are excluded. Our aim is to describe the results obtained from the 18 cases that underwent percutaneous disc decompression with euthermic laser.

Methods We followed all the patients scheduled for laser euthermic discolysis (Discolux ®) from June 2022 to May 2023 in our center. We asked the participants about their VAS (Visual Analogue Scale) before and after the intervention. Afterward, we group them according to their Pfirmmann classification. The results are presented below.

Results The technique was performed in a total of 18 patients, all of them diagnosed with lumbar hernia by magnetic resonance. In the corresponding tables, we showed the collected data.

Mean VAS pre-intervention	Mean VAS post-intervention	Percentual Pain reduction
8.44 (IQR 1)	5.38 (IQR3)	36,25%

Abstract EP094 Figure 1 We observe the mean VAS prior to the intervention and the total pain reduction in the population after the procedure

Pfirmmann	Number of Participants aggregated	Mean VAS pre-intervention	Mean VAS post-intervention	Percentual Pain reduction
1	1	7	4	24%
2	8	8,85 (IQR 1)	4,75 (IQR 4.5)	46%
3	6	8,33 (IQR 1)	5,33 (IQR 2)	36%
4	3	8	7,66	4,25%

Abstract EP094 Figure 2 Once we divide the population according to Pfirmmann's classification we observe that the groups that get the most benefit are also the ones in which the technique is indicated

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Time to second EVA	Number of Participants aggregated	Mean VAS pre-intervention	Mean VAS post-intervention	Percentual Pain reduction
< 1 month	4	8,5 (IQR 2)	5,75 (2.5)	32 %
1 – 6 months	9	8,44 (IQR 1.5)	5 (IQR 2.5)	40%
> 6 months	5	8,4 (IQR 2)	6,75 (IQR 3.5)	19,64 %

Abstract EP094 Figure 3 The time spent after the technique also seems to be important. We observe a tendency the results keep improving until the 6th month after the technique, but after this time, the improvement is more limited

Conclusions Limitations coming from the type of study are clear, but as we can see in the results, it can be a promising technique if the indication is correct, also we find a tendency depending on the time passed after the technique. We find reductions in pain by 46%. Although more studies are necessary to prove the technique's real impact, we insist that the correct indication is mandatory for better results.

EP095 PERIOPERATIVE INTRAVENOUS NEFOPAM ON PAIN AND AMBULATION AFTER OPEN SPINE SURGERY, A RANDOMIZED DOUBLE-BLIND CONTROL STUDY

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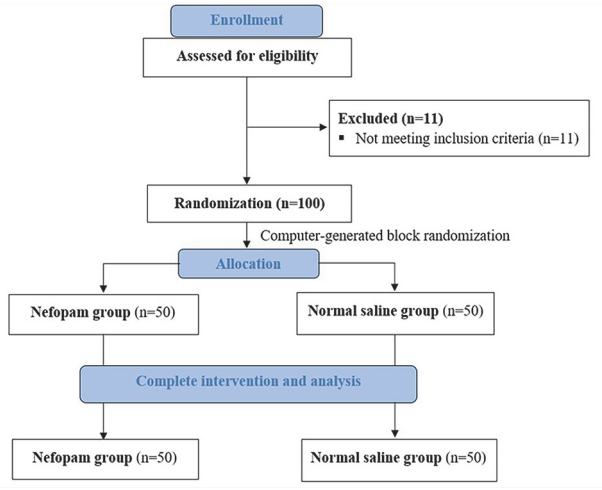
Background and Aims Evidence regarding intravenous nefopam in open spine surgery is lacking as part of enhanced recovery after surgery (ERAS). This study aimed to evaluate intravenous nefopam's effect on reducing morphine consumption, postoperative pain, and functional outcomes.

Methods One hundred patients undergoing lumbar decompressive laminectomy with fusion were randomized into two groups. The nefopam group received 20 mg of intravenous nefopam diluted in 100 ml normal saline intraoperatively, followed by nefopam 80 mg diluted in 500 ml normal saline, given as a continuous infusion postoperatively for 24 hours. The control group received an identical volume of normal saline. Postoperative pain was managed with patient-controlled analgesia (PCA) intravenous morphine. Morphine consumption in the first 24 hours was recorded as a primary outcome.

Results No statistically significant difference in total morphine consumption and postoperative pain score in the first 24 hours postoperatively between the two groups. At the PACU, patients in the nefopam group demonstrated lower pain scores while at rest ($p=0.03$) and upon movement ($p=0.02$) compared to the normal saline group. However, the severity of postoperative pain between the two study groups was similar from postoperative day 1 to day 3. LOS in patients who received nefopam was significantly shorter than patients in the control group ($p<0.01$). The two groups' time to first sitting and walking and PACU discharge were comparable.

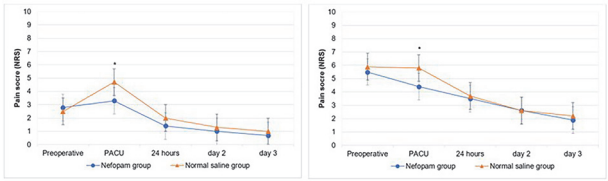


Abstract EP095 Figure 1 A CONSORT flow diagram of the study was shown

Abstract EP095 Table 1 Primary and secondary outcomes between the two study groups

	Nefopam (n=50)	Normal saline (n=50)	*p*-value
24-hour Morphine consumption (mg)	10.4 ± 10.3	11.2 ± 9.7	0.31
Total morphine consumption (mg)	19.3 ± 24.4	20.3 ± 19.8	0.30
Post-operative PDQ	2.4 ± 3.2	2.6 ± 3.1	0.53
Hospital stays (days)	4.3 ± 1.0	5.0 ± 1.3	< 0.01*
Time to PACU discharge (minutes)	45.9 ± 18.9	53.9 ± 29.7	0.23
Time to first sitting (minutes)	1798.0 ± 1188.7	1712.4 ± 862.1	0.99
Time to first walking (minutes)	2481.6 ± 1068.0	2441.8 ± 1086.2	0.72
Duration of foley catheter (minutes)	2584.2 ± 1389.6	2710.6 ± 1306.7	0.69
Duration of the drain (minutes)	3255.5 ± 1237.7	3474.9 ± 1528.4	0.67
Side effects (no/mild/severe) (%)			
- Nausea/vomiting	41/5/4 (82/10/8)	38/10/2 (76/20/4)	0.30
- Dizziness	32/14/4 (64/28/8)	35/13/2 (70/26/4)	0.66
- Drowsiness	37/12/1 (74/24/2)	43/6/1 (86/12/2)	0.29
- Urinary retention	47/2/1 (94/4/2)	48/1/0 (96/2/0)	0.50

A value presented as mean ± SD. and n (%), * represented statistical significance. PDQ, PainDETECT questionnaire.



Abstract EP095 Figure 2 Postoperative pain score: resting pain (left) and upon movement (right). *P < 0.05

Conclusions Perioperative intravenous nefopam demonstrated significant pain reduction during the early postoperative period and shortened LOS. Nefopam is considered effective as a part of multimodal analgesia in open spine surgery.

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