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Using non-steroidal anti-inflammatory drugs to reduce pain following superficial venous incompetence treatment: a systematic review

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INTRODUCTION

- Superficial venous incompetence (SVI) is a common chronic condition and there are around 35,000 treatments that are performed in the National Health Service (NHS) in England per year.[1]
- Following SVI treatment, prolonged post-procedural pain is a common complication occurring in 20-40% of patients.[2]
- Most of these patients are working age – therefore this has significant impacts on work, home and life.
- There are different strategies to reduce this problem, one of which may be the routine usage of a course of non-steroidal anti-inflammatory drugs (NSAIDs).

AIM

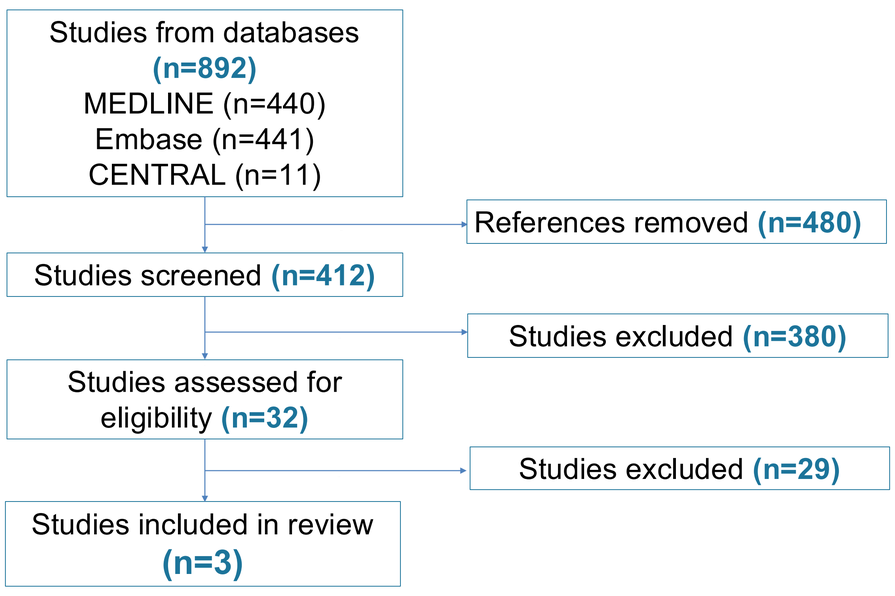
- We performed a systematic review of the literature with the aim to answer the following question:
  Does the routine use of NSAIDs following SVI treatment reduce the severity of post-procedural pain and improve recovery in patients?

METHODS

- Databases searched - Ovid MEDLINE, Embase, Cochrane CENTRAL.
- Studies published between 1946 and June 2025 were included if they met the following inclusion criteria:

Population – Patients undergoing SVI treatment
Intervention – A course of regular NSAID use
Comparison – Current standard of care
Outcomes
- Primary: Post-procedural pain (up to 6 weeks)
- Secondary: Adverse effects, return to normal activities/work, patient satisfaction

Figure 1 - Prisma chart

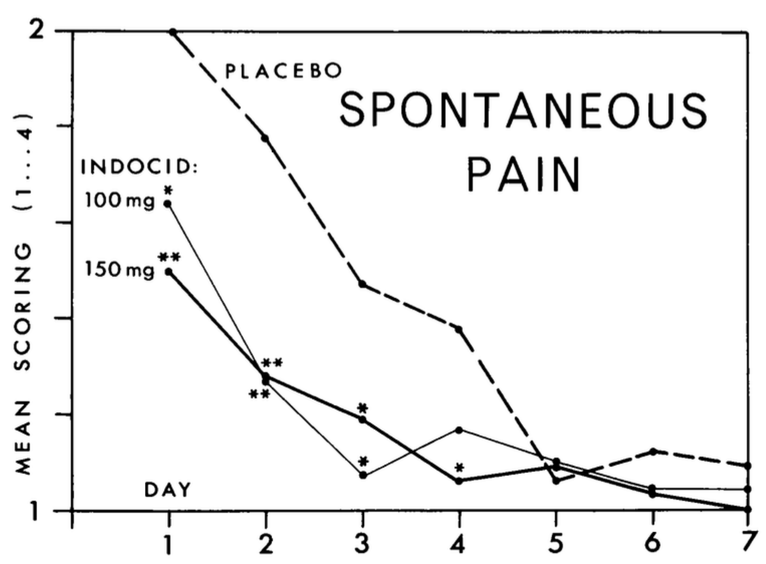


RESULTS

Study 1

- A randomised controlled trial (RCT) involving 94 patients following surgical stripping. [3]
- Patients were given either 150mg or 100mg of indomethacin or placebo for 1 week.
- The primary outcome was post-procedural pain which was measured on a 4-point verbal rating scale (VRS).
- Patients who took either dose of indomethacin had reduced pain compared to placebo ($p<0.05$).

Figure 2 – Effect of indomethacin 150mg, 100mg and placebo on post-procedural pain following surgical stripping



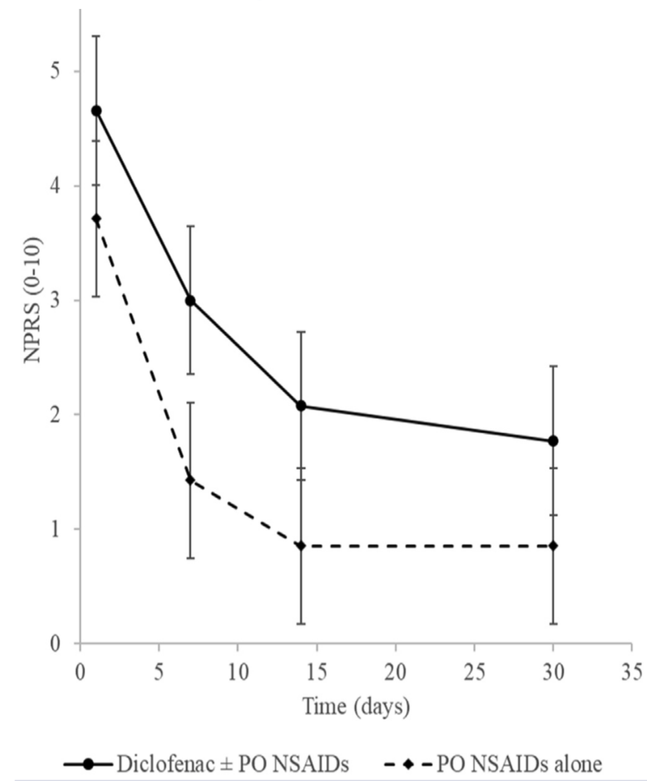
Study 2

- A RCT involving 120 patients following surgical stripping.[4]
- Patients were given one of 4 NSAIDs (naproxen 750mg and 500mg, indomethacin 75mg, aspirin 1500mg) for 1 week.
- The primary outcome was post-procedural pain which was assessed on a 4-point VRS.
- Naproxen 750mg, indomethacin 75mg > naproxen 500mg > aspirin 1500mg. No p-values were reported

Study 3

- A retrospective cohort study involving 45 patients who experienced prolonged pain following ablation therapy. [5]
- The interventions were topical diclofenac +/- oral NSAIDs vs oral NSAID only. The treatment was for 1 month.
- The primary outcome was post-procedural pain which was measured using a numerical pain rating scale (NPRS).
- There was reduced post-procedural pain severity in both groups – but these results were not statistically significant.

Figure 3 – Effect of topical diclofenac +/- oral NSAIDs vs oral NSAIDs alone on prolonged post-procedural pain after ablation therapy



DISCUSSION

- NSAIDs seem to be associated with reduced post-procedural pain following SVI treatments.
- However, there are numerous limitations associated with both the studies and the review.
- Two of the included studies were published in the 1970's and they are outdated in the NSAID type used, SVI treatment and reporting standards.
- The studies have a high risk of bias and are of low quality of evidence.
- The review includes different SVI treatments which have different post-procedural pain levels and potentially different analgesic requirements.
- Most of the patients in the included studies are women, so the results may not be generalizable to both genders.

CONCLUSIONS

- This systematic review shows that there is poor quality evidence to suggest the benefit of routine NSAIDs following SVI treatments to reduce post-procedural pain.
- Therefore, further studies are needed to assess NSAIDs' clinical effectiveness and whether this will influence patient-centred outcomes.

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