INVERSION

- Economic and social costs of discogenic disease and its treatment are well known.
- Surgery is a well established option in the management flowchart.
- Impact of any treatment to offset the costs of the disease and/or surgery is obvious.
- No strong evidence proving that traction for sciatica is ineffective.
- Previous trials of traction have not reported on avoidance of surgery as an outcome measure.

To study the feasibility of a randomised controlled trial of the impact of the inversion device in a single level discogenic disease on various outcome measures.


design: prospective randomised control trial

study details
- centre: regional neurosciences centre, newcastle upon tyne

Protocol
- inclusion
  - sciatic due to single level disc protrusion
  - within 6 months of first episode
  - 18-45 years of age

- exclusion
  - neurological deficits
  - sphincter disturbances

- arms
  - randomised to inversion and regular physiotherapy or physiotherapy alone whilst waiting for surgery

- outcome measures
  - assessment at 6 weeks post therapy

inversion
- inversion is a form of extreme traction aided by gravity
- inversion tables can be mechanical or motorised
- inversion in our trial was used as intermittent traction along with standard physiotherapy whilst waiting for surgery

outcome measures
- avoidance of surgery
- roland morris (rm) questionnaire
- sf-36
- oswestry disability index
- mri appearance

patients
- number: 22
- m/f: 1
- age: 25-44 years

avoidance of surgery

- roland morris questionnaire
  - no significant difference between the two groups.
  - 19 patients: no data for one patient and two were operated on before final assessment.

short form 36
- no significant difference between the two groups.
- 19 patients: no data for one patient and two were operated on before final assessment.

oswestry disability index
- no significant difference between the two groups.
- oswestry assessment was done for only 8 patients – 4 in each group

scoring system for post randomisation mri

- worsened prolapse/compression -1
- unchanged
- decreased prolapse/compression 1
- prolapse seen but no compression 2
- complete disappearance 3

fisher exact p = 0.016

23%
78%

operation rate

inversion arm

conservative arm

discussion

- the most comprehensive systemic review by clarke et al. (2007) states that there is moderate evidence that in patients with sciatica, traction is no different from other treatment measures.
- however avoidance of surgery, which is extremely important, has not been evaluated previously.
- this trial addressed that issue.
- avoidance of surgery did not prejudice other outcome measures and vice versa.
- we have also introduced a scoring system for comparing pre and post therapy mri.

conclusion

- inversion therapy decreased the need for an operation in sciatica due to single level disc protrusion to 23% as compared to 78% in the non-inversion group.
- the economic impact is very significant.
- a large multicentre prospective randomised control trial is justified.

refs
- clarke ja, van tulder mw, bloemberg se, de vet hcw, van der heijden gjmg, bronfort g, bouder lm.
  traction for low-back pain with or without sciatica. cochrane database of systematic reviews 2007 issue 3.
- van der heijden gjmg, beurskens ajhm, dinjum m,n, bouder lm, lindeman e.

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