

ACUPUNCTURE — AN ANALGESIC SUPPLEMENT IN POST APPENDICECTOMY PAIN

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SUMMARY

Forty ASA I patients of either sex undergoing elective appendectomy were chosen for the study. The anaesthetic technique used in all the forty patients was subarachnoid block. They were divided into two groups (Group A and Group C) of twenty each. Group 'A' patients were inserted with acupuncture needles in analgesic points at the end of the surgery. An adhesive leucoplast covered the needles, while in Group C (control) only the leucoplast was pasted. Postoperative pain scores (0-10 NRS) and sedation scores, studied by a blinded staff nurse were similar in both groups. Postoperative pentazocine and ketorolac requirements were significantly high in Group C. To conclude, acupuncture decreases postoperative analgesic requirements in a significant way.

Keywords: Post operative pain, acupuncture.

Postoperative analgesia forms an essential part of the perioperative anaesthetic care. Several methods have been suggested to decrease pain. Acupuncture, a technique of inserting needles at described points is known for its analgesic and sedative actions. It is useful in many chronic pain problems. Electro acupuncture analgesia was used for colonoscopy and the effect was found comparable with pethidine. In this study acupuncture was tried as an analgesic supplement in postoperative pain of patients undergoing elective appendectomy.

Material and Methods

Forty patients of either sex posted for elective appendectomy were selected for this study. They were divided into two groups of 20 each in a simple random manner, so that each patient has an equal chance to be in either group. Patients of Group A received acupuncture while Group C served as control. A routine preoperative check up was made in all patients. An explanation of the eleven point (0-10) numerical rating scale (NRS) was given to all patients. An informed consent was obtained from all of them. They were premedicated with injection pentazocine 0.3 mg kg⁻¹ and injection Atopine 0.02 mg kg⁻¹ IV ten minutes before surgery. They were given spinal anaesthesia with 1.8 ml of 5% lignocaine to achieve an adequate level. Immediately at the end of the surgery, Group 'A' patients were inserted with acupuncture press needles (32 G, 0.5 cun size) at St 36, Ex 33, St 44 points in the right leg and an adhesive leucoplast covered the needles.

St 36 - One finger breadth lateral to the lower end of the tibial tuberosity. Ex 33- Extraordinary 33-2 cun distal

to ST 36 St44 — Stomach 44:- On the dorsal aspect of the foot just proximal to the web space between 2nd and 3rd toes. Here cun refers to body inch. It is defined as the distance between the palmar creases over the proximal and distal interphalangeal joints of the middle finger of the patient. In patients of Gr "C", only leucoplast was pasted at similar places. This was done to blind the staff nurse who measured pain scores and instituted analgesic injections. The regression of spinal level below the incision was taken as '0 hours. Sedation scores were monitored as follows.

1. Asleep and comfortable
2. Awake and comfortable
3. Awake with pain.

Pulse blood pressure, respiratory rate were also monitored every 3 hours for a period of 12 hours. Injection pentazocine in 6 mg I. V increments was used when the patients complained of pain. If the pentazocine requirements exceeded 30 mg within a 3 hour period, injection Ketorolac 30 mg I.M. was given. All data were entered in a proforma and subjected to statistical analysis using students "t" test and one way ANOVA. Regarding the ketorolac requirement, the Fischer's exact test was used.

Results

The two groups were comparable with respect to age, sex and weight (Table -I). All patients had a satisfactory analgesic level of T6 and none required additional sedatives or inhalational agents. The duration of surgery was approximately twenty minutes in both groups (Table-II) The measured pain scores are similar in both the groups. Graph - I Regarding the sedation scores, statistically insignificant changes were found between the groups (Graph-2) The mean postoperative pentazocine requirements were significantly high in the control Group (6.90+1.55 doses)

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than in the control Group 'A' (4.35+1.65 doses) Calculating the pentazocine requirements on an hourly basis, it was found that statistically significant higher doses (P<0.05) of pentazocine were required for patients in Group 'C' at 1,2 hours (Graph III) The cumulative requirement of pentazocine was significantly high in Gr. C (Graph IV) Seven out of 20 patients in Group 'C' while no patients of Group 'A' received injection Ketorolac at three hours. In the next nine hours, none of either group required Ketorolac. This was statistically highly significant. (P <0.01) The perioperative course was uneventful in all patients.

Table 1 Patient Characteristics (Mean ± SD)

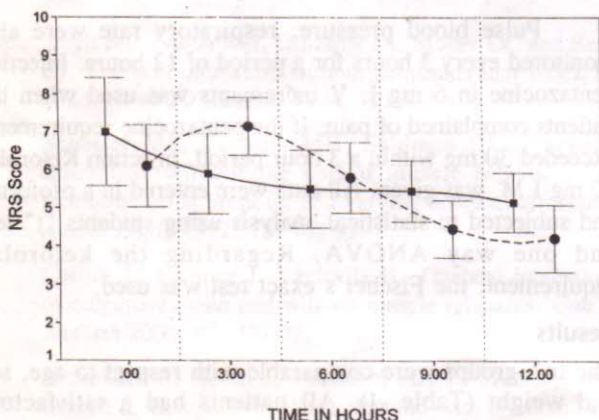
	GROUP A	GROUP C
Age (in Years)	24.8±5.58	25.55±7.63
Sex. M.F.	7.13	6.14
Weight (in Kgs)	47.35±5.58	47.20±6.03

Table 2

GROUPS	(Minutes) Duration of surgery
Group - A	20.2±5.6
Group - C	19.8±5.2

Discussion and Conclusion

Several nonpharmacological methods have been suggested and tried to alleviate postoperative pain. Cryoanalgesia, Electroanalgesia Acupuncture, TENS, Hypnosis are some of the methods.^{6,7,8,9} Acupuncture is used to treat many chronic pain problems with minimal side effects. As narcotics and NSAIDS have their own side effects, the reduction in their usage is bound to be helpful. In this study, we supplemented with only three press acupuncture needles at appropriate points and we found a minimal but significant decrease in analgesic requirement (pentazocine) at 1, 2 hours for patients of Gr "A". In the later hours, it was similar in both groups. This similarity can be attributed to an increased Ketorolac requirements of Gr. "C". The Ketorolac was administered at '3' hours in all the seven patients of Gr. C. This clearly demonstrates the analgesic efficacy of acupuncture on postoperative pain. Further, we used only three small press needles to facilitate blinding of staff nurse. As we passed the needles in the time when spinal anaesthesia has not waned, the characteristic "Dechi" of acupuncture was not elicited during insertion. Even with this, there is a significant decrease in the requirement of analgesics. This is just a small study with less nonception and we conclude with the hope this study would open the gates for further use of acupuncture in pain relief after major surgeries.

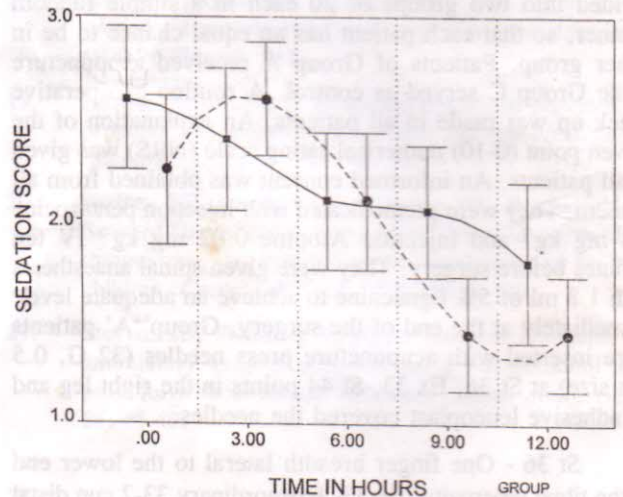


F = 0.6837
Sig. of F = 0.409

GRAPH I

GROUP
 ■ 1.00
 ● 2.00

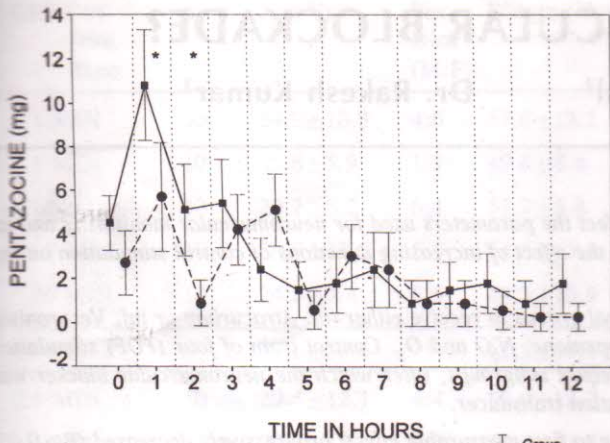
NRS Score between groups 95% Confidence Interval



GRAPH II

GROUP
 ■ 1.00
 ● 2.00

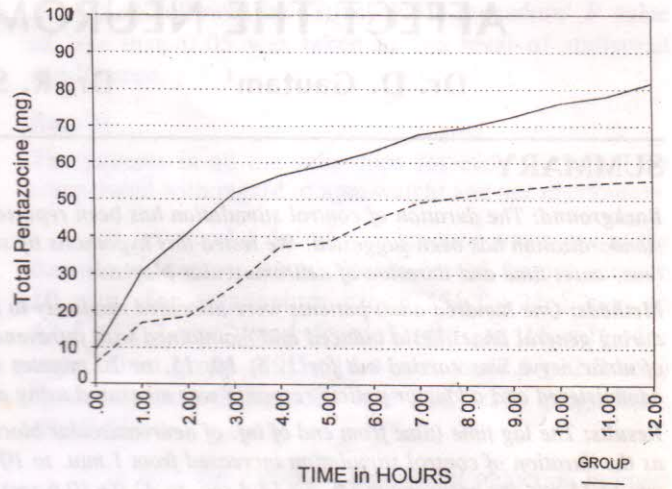
Sedation Score 95% Confidence Interval



* p < 0.005

GRAPH III

Group C (solid line with squares)
Group A (dashed line with circles)



TIME in HOURS

GRAPH IV

GROUP C (solid line)
GROUP A (dashed line)

Pentazocine Requirement 95% Confidence Interval

Pentazocine Requirement Cumulative Sum

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