

# A Double Blind Randomised Controlled Trial of Wound Infiltration (WI) Using Diclofenac Versus Wound Infiltration Using Bupivacaine Versus PECS 2 Block Using Bupivacaine for Post-operative Pain Relief in Mastectomy Surgery. DWIBPECS STUDY.

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## INTRODUCTION

- Pain is a major concern among breast cancer (BC) patients undergoing mastectomy surgery.
- Reducing post-operative pain following BC surgery can achieve more rapid recovery and shorten the hospital stay.
- The objectives of this study are:
  - To compare immediate post-operative pain scores at rest and dynamic post-operative pain with numeric rating scale; and
  - To measure total post-operative analgesic costs and length of hospital stay.

## MATERIALS AND METHODS

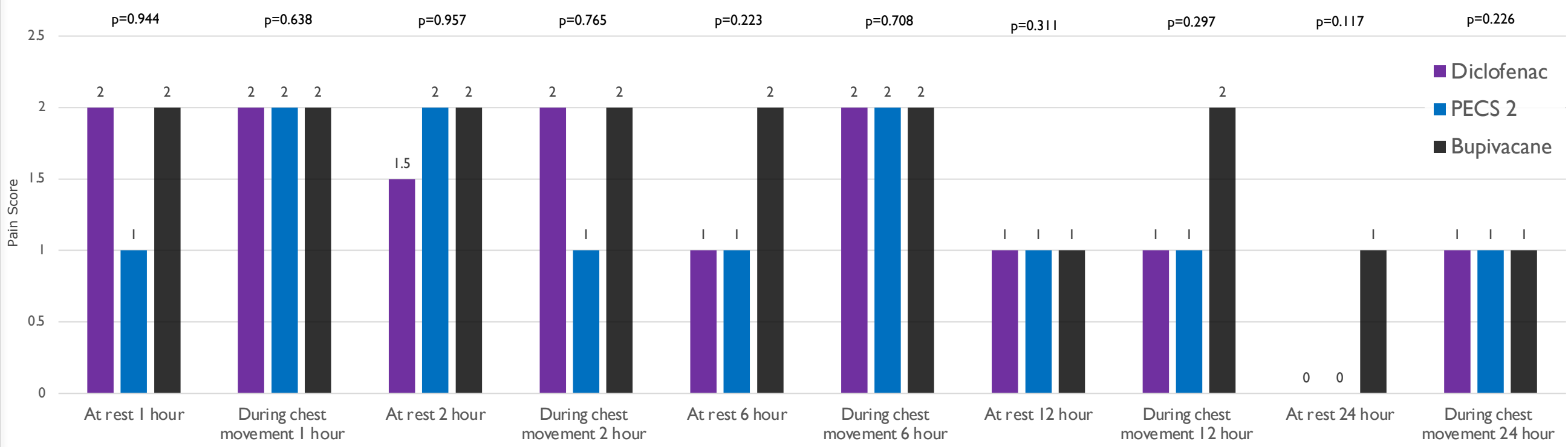
- A double-blind, randomised, controlled trial;
- 144 patients who underwent mastectomy in UMMC from July 2022 to February 2024
- Block randomisation and blinding of the patients and assessors were done
- Kruskal Wallis test performed to compare the three groups' pain score, total analgesic cost, and length of hospital stay
- Numerical variables presented as mean ± SD and median (IQR)
- Categorical variables presented as frequency (%)

## RESULTS

Variable	Diclofenac (n=48)	PECS II (n=48)	Bupivacaine (CONTROL ARM) (n=48)	p-value
Age (years)	66.88 ± 11.07	64.9 ± 11.3	67.38 ± 10.49	0.478
ASA score				
1	5 (10.4%)	7 (14.6%)	1 (2.1%)	0.082
2	43 (59.6%)	41 (85.4%)	47 (97.9%)	
Op done				
Mastectomy + SLNB	24 (50.0%)	20 (41.7%)	22 (45.8%)	0.715
Mastectomy + AD	24 (50.0%)	28 (58.3%)	26 (54.2%)	
Duration of surgery (minutes)	75.0 (60.00-90.00)	75.0 (55.00-85.00)	75.0 (60.00-100.0)	0.804
Wound length (cm)	17.0 (15.00-19.38)	17.0 (14.25-18.00)	16.0 (14.00-18.00)	0.247

Table 1. Socio-demographic Characteristics of Patients (n=144)

Comparison pain score at rest and dynamic for 1h, 2h, 6h, 12h and 24h (n=144)



Variable	Diclofenac (n=48)	PECS II (n=48)	Bupivacaine (CONTROL ARM) (n=48)	p-value
Median Total Cost of All Analgesia	RM 1.40 (1.09-1.62)	RM 7.30 (7.09-7.53)	RM 7.40 (7.09-7.56)	<0.001

Table 2. Immediate Post-operative Analgesia Costs

Variable	Diclofenac (n=48)	PECS II (n=48)	Bupivacaine (CONTROL ARM) (n=48)	p-value
Length of Hospital Stay (Days)	2 (2.00-2.00)	2 (0.00-3.00)	2 (2.00-3.00)	0.241

Table 3. Length of Hospital Stay

## CONCLUSION

Wound infiltration using diclofenac provides comparable post-operative pain relief to wound infiltration with PECS II block and WI with bupivacaine in mastectomy. Diclofenac WI provides five times cost-savings to make postoperative pain control accessible in the limited resource setting. Repurposing old and low-cost drugs are useful in surgical practice.

## REFERENCES

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2. Syal K et al. Comparison of the post-operative analgesic effect of paravertebral block, pectoral nerve block and local infiltration in patients undergoing modified radical mastectomy: A randomised double-blind trial, 2017