Mind the Gap: CT vs. Intraoperative Hernia Sizing and Implications for CPT Coding Accuracy

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Introduction

Ventral Hernia Current Procedural Terminology (CPT) revisions were implemented in 2023 resulting in a series of codes stratified by size (<3cm, 3-10cm and >10cm), presence or absence of incarceration/strangulation, and recurrence status. The work relative value units (wRVUs) and associated payment for hernia procedures is stratified based upon these measures with larger, incarcerated, and recurrent hernias receiving higher valuations. Prior coding did not capture hernia size. CPT coding guidelines now require intraoperative measurement of hernia size to be performed. CT scan measurements of hernia defect size are often reported but correlation with intraoperative direct measurements has not previously been reported. This study compares intraoperative hernia width and length measurements compared with preoperative CT.

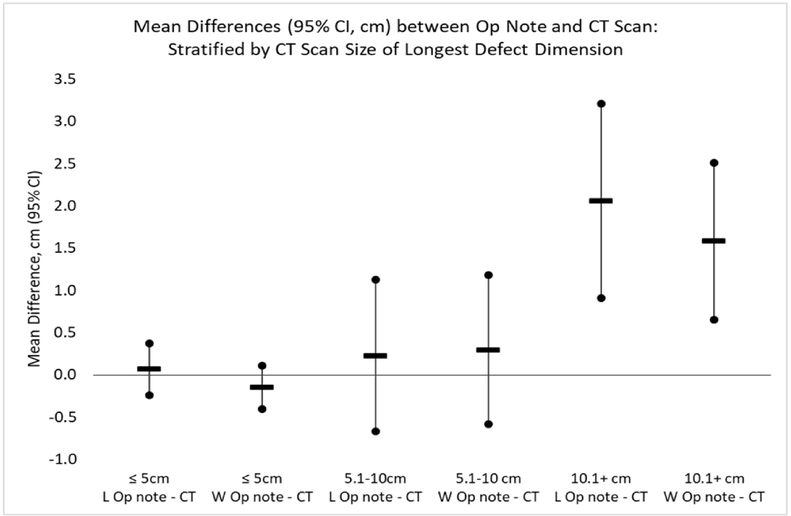
Methods

A retrospective analysis of 287 patients who underwent ventral hernia between 1/2022 and 5/2023 was performed. Recorded intraoperative hernia measurement based upon operative notes was compared with corresponding measurements on preoperative CT imaging. Patients were stratified based on defect size: ≤5 cm, 5–10 cm, and >10 cm.

Paired Samples Test[a]

		Paired Differences				
				95% Confidence Interval of the Difference		
		Mean Difference (cm)	Std. Error Mean	Lower	Upper	Two-Sided p-Value
<= 5.00cm	Op note length (cm) - CT length (cm)	.0667	.1547	-.2436	.3769	.668
	Op note width (cm) - CT width (cm)	-.1481	.1285	-.4060	.1097	.254
5.01 - 10.00cm	Op note length (cm) - CT length (cm)	.2286	.4446	-.6693	1.1265	.610
	Op note width (cm) - CT width (cm)	.2976	.4360	-.5830	1.1782	.499
10.01+cm	Op note length (cm) - CT length (cm)	2.0606	.5759	.9105	3.2107	.001
	Op note width (cm) - CT width (cm)	1.5824	.4637	.6567	2.5080	.001

a. No statistics are computed for one or more split files



Results

In hernia defects ≤10 cm, there were no statistically significant (p<.05) differences between CT and operative report measurements in terms of either dimension length or width. Ventral hernias less than 5cm (length and width) had a mean difference of 0.07 cm in length and -0.15cm in width from operative note compared to CT scan. For hernias between 5-10cm the difference was 0.23cm and 0.30cm (L x W) respectively. In cases where the hernia defect was >10 cm, the operative notes reported on average, a 2.1 cm greater length and a 1.6 cm greater width compared to CT measurements.

Conclusions

Intraoperative measurements of hernia defect size correlates with CT scan measurements for small and moderate defects. The size of hernias >10 cm are modestly underestimated in both length and width by preoperative CT scan.