



Short Communication

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The Good, Bad and Ugly Gall Bladder: A Laparoscopic Challenge

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To Cite This Article: Atul Kapoor*. The Good, Bad and Ugly Gall Bladder: A Laparoscopic Challenge. *Am J Biomed Sci & Res.* 2024 24(2) AJBSR. MS.ID.003186, DOI: [10.34297/AJBSR.2024.24.003186](https://doi.org/10.34297/AJBSR.2024.24.003186)

Received: 📅 September 24, 2024; **Published:** 📅 October 07, 2024

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Laparoscopic Cholecystectomy has become the procedure of choice for gall bladder removal worldwide [1]. The surgeon is often mired by the difficulties of procedure which not only lead to increased operative time, prolonged hospital stay and even procedural complications like common bile duct injuries, incomplete removal, biliary collections and hematoma formation [2]. There has been an incessant desire by the laparoscopic surgeon to have a pre-operative classification about the gall bladder so as to have an idea of the pre-operative difficulty what can be called as the good, bad or ugly gall bladder [3-5]. Ultrasound being the most commonly used imaging tool for gall bladder assessment does not tell about the status of gall bladder wall i.e. thickness, edema but also about the luminal contents and initial studies done were based on these parameters categorized the gall bladder into good or bad categories with those showing a wall thickness of more than 4mm as bad [5]. Gall bladders with stone size more than 25mm were also labeled as difficult procedures in some studies [6]. As experience and imaging improved criteria of gall bladder volume, distension and cystic duct length were also added to further elaborate the differentiation between the above groups [7]. In spite of all the above sonographic parameters the sensitivity and specificity of ultrasound to predict difficult gall bladder surgery has been 75% and 87% respectively [5-7]. The most challenging part has been the detection of pericholecystic adhesions. Studies based on ultrasound alone used presence of pericholecystic stranding, fluid, contracted or non-visualized gall bladder lumen as the criteria all of which were indirect

indicators of adhesions and hence had a variable accuracy [6]. Recent studies [8] have shown that use of Shear Wave Elastography (SWE) was more useful and detected pericholecystic adhesions based on increased stiffness of gall bladder wall and surrounding parenchyma. SWE also quantified the level of stiffness and fibrosis in pericholecystic locations which enabled the detection of difficult cholecystectomies i.e. ugly gall bladder and differentiated it pre-operatively from the good and bad gall bladders. Good gall bladders had normal volume of at least 40 cc and a distended lumen with wall thickness of less than 2.5mm and absent adhesions while bad gall bladders had normal distension with wall thickness more than 2.5mm and with moderate adhesions while ugly gall bladders had loss of volume with severe pericholecystic adhesions. Coupled with ugly gall bladders were also those patients with congenital morphological anomalies including short cystic duct, ectopic gall bladder location which added to surgical difficulty.

To summarize with the use of modern imaging tools and enhanced sonographic skills one is able to pre-operatively map the level of difficulty of a laparoscopic surgery and categorize the gall bladder as good, bad or ugly and thus help surgeon in better operative planning (Figure 1).

Acknowledgement

None.

Conflict of Interest

None.



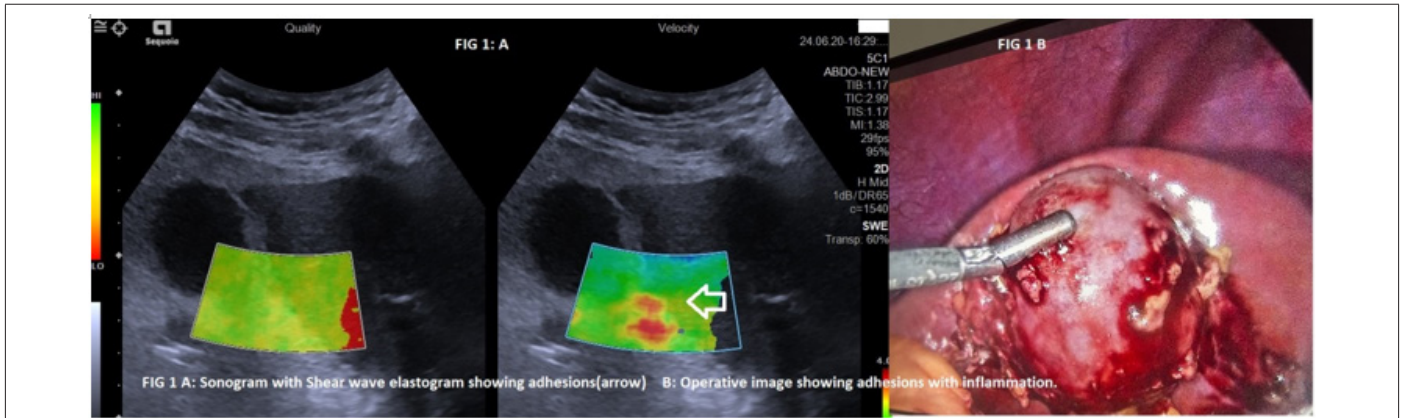


Figure 1

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