Development and Pilot-testing of an Intra-operative Smartphone App that can help Surgeons Prevent Bile Duct Injury Complication during Laparoscopic Cholecystectomy Procedures

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Rationale:

Even with the strong advocacy of the Safe Laparoscopic Cholecystectomy Program adapted in our country as Zero Bile Duct Injury (BDI) Campaign, there is still a gap that the incidence of BDI in Laparoscopic Cholecystectomy is not yet zero (0.3-0.5). It may also be an underestimation since there is no concrete laparoscopic cholecystectomy registry.

Objective:

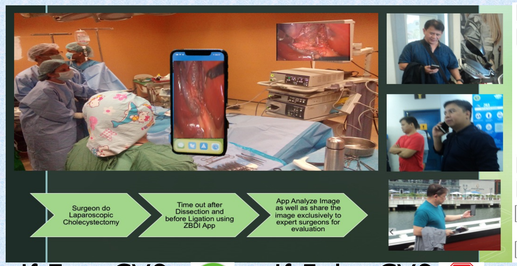
To do a mocked (pre-clinical) validation study Upon development of Zero BDI Smartphone App, an Artificial Intelligence (AI) and an expert surgeon real-time Tele-mentoring networking driven App as a intraoperative timeout checklist procedure to ensure safety in laparoscopic cholecystectomy.

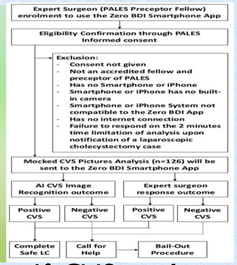




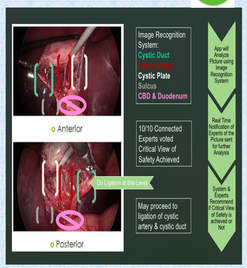
Method:

Mocked Lap Chole Time-out Procedure using Zero BDI App

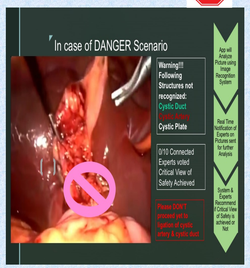




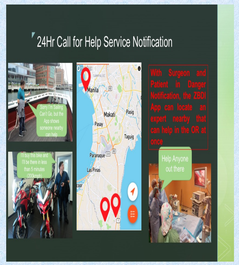
If True CVS GO



If False CVS STOP



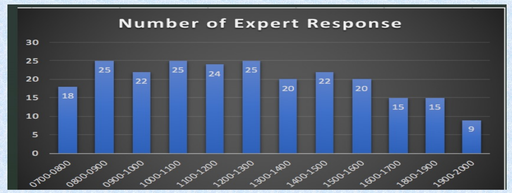
If CVS can't

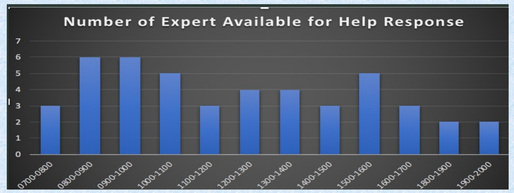


Outcome:

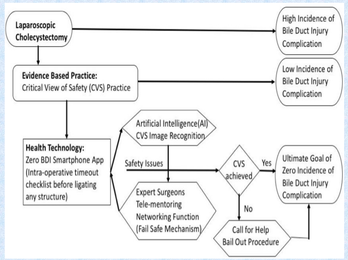
The AI component of the App is at par with the decision of the expert surgeons. Utilization of App by surgeon is high.

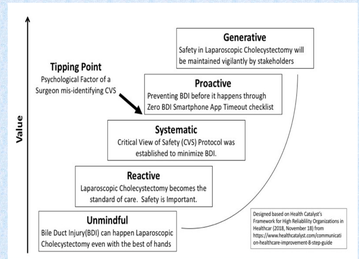






Discussion:





Conclusion:

The Zero BDI app can be readily utilized as an added armamentarium as a crucial intra-operative time-out procedure that can assist for the safety of laparoscopic cholecystectomy procedure. Recommended clinical trial is planned. -

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