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Abdominal wall hernias in rural population of Mewat region–Clinical spectrum & impact of health education programs creating awareness

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Abstract
Abdominal wall hernia is a common surgical condition. Inguinal hernia being the commonest. Because of ignorance patients presented late with complications. In this study 523 cases were studied retrospectively and a spectrum of cases were seen. Attempt has been made to treat the patients with cost- effective surgical procedures. Emphasis has been laid on creating awareness through health education program to reduce morbidity.

Keywords: abdominal wall, inguinal, cost - effective surgery, awareness, morbidity

Introduction
Abdominal wall hernia (abnormal protrusion of intraperitoneal viscera through a defect or weakness in the anterior abdominal wall) is a commonly occurring surgical condition all over the world. Out of these Inguinal hernia occupy the most prominent position being the most common condition and if they don't present in time they incur lot of damage adding to morbidity and mortality. So for this reason aiming at reducing the morbidity and mortality we proposed a health education program targetted at creating awareness so that patients could seek the surgical advice early to reduce morbidity and mortality.
Males are affected more than the females. But femoral hernias are more common in females. Incidence of hernia increases with advancing age .Also the incidence of indirect inguinal hernia is twice as common as direct inguinal hernia. Inguinal hernias are more common on right side.
Midline ventral hernias are the next common variety of abdominal wall hernias. According to their location these are further classified into umbilical, paraumbilical and epigastric hernias.Traumatic and Obturator hernias are rare.

Material and Method
This was a retrospective study conducted on 523 patients of abdominal wall hernia who attended the outdoor clinics of General Surgery department of our medical college located in rural mewat region of Dhauj (Faridabad) during the 18 months period (from November'2019 to April'2021). A proforma was designed and relevant data was collected from the patient's clinical records. The data included the clinical (including the co-morbidities), demographic, socioeconomic facts, clinical presentation details and treatment done, results obtained and the impact of health awareness programs. All data which also included choice of anaesthesia and surgical procedures along with the outcome & follow up details. The impact of health education and awareness program was also studied. The data so obtained were analysed and the results obtained.

Results
This was a retrospective study on 523 hernia patients who constituted nearly 10% of the total 5236 surgical patients who attended the surgery outdoor services during the period of study (18 months; from November'2019 to April'2021). Nearly 10% of total patients who attended surgery outdoor clinics had anterior abdominal wall hernias. A total of 465 out of 523 patients presented for surgery. Inguinal hernia patients constituted 80%, incisional hernia 10%, umbilical/paraumbilical 5%, epigastric 4%, and 1% were the rare hernias.
The male to female ratio was 8:1 in adults and 4:1in children. The median age among adults was 45 years (15-85 years) whereas in children it was 7 years (6 months-14 years). Co-morbidities encountered were hypertension in 27%, diabetes in 18%, cardiac problems in 20%, chronic airway disorders in 55%, chronic renal failure in 0.36% and liver disorders in 0.64%. Predisposing factors were chronic cough in 54%, chronic constipation in 18%, prostatic (urinary bladder outlet) problems in 23%, previous surgical procedures in 9%, obesity in 1.2%. In females additional factors of multiparity and transabdominal gynaecological surgical procedures were noticed. In paediatric patients the preperitoneal sac, excessive crying, weak musculature and chronic respiratory infections

were important factors. 465 patients out of 523 got operated. Out of 465 patients 93 were operated in emergency rest were operated electively. 46 patients were of paediatric age group. They were mainly congenital inguinal and epigastric or umbilical hernia. 15 (3%) patients had recurrent hernia. Bilateral hernia was seen in 31 (6.3%) Patients. 72% of hernias were acquired and they were of indirect inguinal type. Cough impulse and reducibility was seen in approximately 90% of patients. Majority of patients had normal built only 9 patients had obesity.
Surgical procedures were performed depending upon the type of hernia, age of the patient, affordability and status of musculature of the patient. Lichtensteins & Bassini's repair was done on majority of inguinal hernias. Open meshplasty Or Lap meshplasty was done in umbilical, epigastric and incisional hernias depending upon the affordability of the patient. Herniotomy was done on paediatric inguinal hernia patients. Laparoscopic surgery was done only in 31(6.23%) patients. Morbidity was noted in the form of wound infection and chronic pain. Recurrence rate was very low. 93 patients were operated in emergency. These patients had presented with irreducibility and pain. Strangulation was found in 3 patients in whom we did resection & anastomosis. Mortality occurred in two patients; one had perforation of the gangrenous bowel and the second one had strangulated umbilical hernia with cirrhosis of liver. These two patients who presented very late succumbed post-operatively. Some other surgical procedures were done simultaneously the most common being opposite side hernia.

Discussion

This retrospective study was done on 523 hernia patients who attended the surgical OPD clinics of our General surgery department of Al Falah school of medical science and research center, Dhauj, rural mewat region (District Faridabad) in Haryana state to know the various causative and predisposing factors and their various clinical presentations & how the co-morbidities affected the outcome, how best they could be managed & to see the impact of improving socio-economic conditions & the educational strategies to create awareness so that the patients could present early in the course of disease. Laparoscopic procedures for hernial repair have also been started at our centre. This is in addition to the open mesh hernioplasty facilities which are already there.
In infants the inguinal hernias are attributed to preformed sacs. Some authors have found higher incidence in higher age groups. Our study demonstrated that higher incidence was seen with increase in age but equally true is that there were many pediatric patients with inguinal hernia. Review of literature shows the mean age to be 45-60 years, our experience was similar in this regard. Since this is productive age group it leads to a considerable economic burden, this was also the reason why patients presented late. Males were affected more than females, the M: F ratio varying in different studies from 7:1 to 18:1. In our study we observed 8:1. However femoral, epigastric and incisional hernias are more prevelent in females. They also presented late and the reasons being social inhibitions, family responsibilities, tendency to conceal their health issues, fear of operative intervention and lastly in rural areas the dependence of ladies on menfolk to take them to nearby health facilities.
Out of the available surgical options the most common surgical procedure opted for was Lichtensteins mesh hernioplasty technique which is the simplest technique and has the advantage of being open tension free repair with the least rates of recurrence [3, 9, 10.] For children the choice was herniotomy with minimal post-operative complications. We also performed laparoscopic repairs in 31 (6%) cases at our setup, the reason for this choice was faster recovery and early return to full activity. Though the cost of the procedure was a restrainig factor.
In our study the comlication rates were 8% which is comparatively less as 12% reported by other series in the literature [8]. Our study had 85% cases performed electively as compared with 63% in the other series and this may have been a probable reason for lower complications.
Emergency surgeries performed on complicated hernia cases led to higher mortality as mentioned due to perforation and strangulation of the incarcerated bowel loop; thus proving the fact that neglect and late presentation leads to poor outcomes. The concurrent co-morbidities also contributed to overall morbidity as elderly patients develop cardiopulmonary complications which also contributed to overall morbidity & mortality.

Conclusion

Abdominal wall hernia is quite common surgical condition constituting 10-12% of the surgical patients attending the outdoor clinics. As our centre is located in the rural mewat region because of poor awareness and low educational status patients sought advice late, in some cases they presented after they developed complications. It is here that proper health education programs can positively impact the attitude of rural patients so that they do not neglect their health problems and seek medical advice in time. Specific educational strategies can help them understand the value of seeking timely advice so that complications like obstruction & strangulation of the bowel loop and a major surgical procedure (resection and anastomosis) can be avoided. So strategies to create health awareness particularly for rural communities is the need of the hour and these strategies can help reduce morbidity and mortality. Mesh hernioplasty is the treatment of choice and it can be done by laparoscopic technique also to those who can afford it. Laparoscopic technique has the benefits of lesser morbidity, earlier return to work and lesser complications.
The most important fact which we observed in this study is that health awareness programs showed positive impact and helped reduce morbidity and mortality as they presented early before the complications developed.

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