

## An Overview of the State of Coloproctology in Nepal

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Medicine in Nepal has travelled a long tedious path from the age of Ayurved to minimal invasive surgery. Bir hospital is the oldest hospital in Nepal which was established in 1899 AD with Dr FB Hamilton being the first resident surgeon<sup>1</sup>. The history of modern surgery in Nepal dates back to 1962 when the Department of surgery was established at Bir hospital under Professor Dr Anjani Kumar Sharma<sup>2</sup>. At present there are 20 medical colleges, numerous government hospitals in district/zonal /regional level and private hospitals. Hospitals with tertiary treatment facilities are mostly concentrated in Kathmandu and metropolitan cities<sup>3</sup>. As there persists an inequitable distribution and centralization of resources and services, the health infrastructure is very poor.

Though there are no hospitals or departments devoted to Coloproctology alone, it is practiced by general and gastro intestinal surgeons depending on their qualification, training and area of interest. There are less than a handful of registered specialist colorectal surgeons but their area of practice is not confined to the subject and they have to deal with gastro intestinal and hepato-biliary cases as well.

Nepal is a developing nation and it has a poor census of disease prevalence and operations performed. The majority of data which are available are confined to individual hospital based studies and publications. Operations on coloproctology diseases range from 9-15% in hospitals. The majority of diseases are of benign nature among which hemorrhoids are the most common followed by perianal sinus/fistula/fissures and rectal prolapse.

Milligan–Morgan and Ferguson haemorrhoidectomy are still the most frequently performed surgical procedures for symptomatic third and fourth degree hemorrhoids in Nepal. New techniques like hemorrhoid artery ligation, stapled haemorrhoidectomy and Harmonic scalpel haemorrhoidectomy are also performed but due to the high cost of the instrument, the procedures are not done on a regular basis. Similar to other studies, Bhandari et al showed that stapled haemorrhoidectomy has a better short term outcome<sup>4</sup>. More than 100 cases of Harmonic scalpel haemorrhoidectomy have been done at Civil Service Hospital with promising results<sup>5</sup>.

Perianal fistula/fistula in ano is a common disease faced by all surgeons with fistulotomy/fistulectomy /LIFT being the most commonly performed surgeries. Rectal advancement flap is also done and has been shown to be a feasible and safe option<sup>6</sup>. VAAFT is a new procedure which has recently been started at Bir hospital. Rectal prolapse is a rare presentation with females presenting with a higher grade<sup>7</sup>, both open and laparoscopic procedures are performed for complete prolapse at all the major centers in the capital. Due to the high cost, the rate of laparoscopic Rectopexy is less and both tackers with mesh or suture Rectopexy are done<sup>8</sup>.

Abdominal tuberculosis is common in Nepal, with Intestinal tuberculosis being the commonest followed by peritoneal. Among intestinal tuberculosis, ileocecal tuberculosis (28-35%) is the most common followed by ileal (16- 20%)and colon (8-15%). Most of the patients are from the rural areas. Clinical presentation of intestinal obstruction and bowel perforation are regularly faced by surgeons. Laparoscopy with biopsy is performed as gold standard in diagnosis of peritoneal tuberculosis. Emergency operations (Laparotomy and perforation repair, resection and anastomosis and right Hemicolectomy) are regular operations carried out in all hospitals<sup>9,10,11,12</sup>.

Obstructed defecation Syndrome (ODS), Familial adenomatosis polyposis(FAP), Hereditary nonpolyposis colorectal cancer(HNPCC) and inflammatory bowel disease (Ulcerative Colitis and Crohns disease) though not frequently seen in the past, now due to better diagnostic facilities being easily available to the Gastroenterologists; are now being more commonly diagnosed, but the number is far less than the west and there is no official data in Nepal. STARR procedure, total/subtotal colectomies, Resection rectopexy, ventral resection Rectopexy, internal Delorme procedure, muscle plication, sacral rectopexy and ventral laparoscopic rectopexy are performed in a few select centers if surgical intervention is required.

Kanti Children Hospital is the only Pediatric Government Hospital in the nation though there are pediatric surgery units in various tertiary hospitals. Surgeries for benign and malignant colorectal conditions are performed in all centers. Ano Rectal Malformation (ARM) is most common in male neonates with a high and intermediate type ARM with rectourethral fistula but most have a late presentation. Anorectal malformations undergo ASARP (anterior sagittal anorectoplasty), PSARP (Posterior sagittal anorectoplasty) and PSARVUP (posterior sagittal anorectovaginourethroplasty) <sup>13</sup>.

Colonoscopies are regularly carried out in all hospitals but are not available in all rural based hospitals. Carcinoma colon is the second prevalent lesion in colorectal biopsies<sup>14</sup>. Few centers in the capital carry out stenting and dilatation procedures for colonic benign strictures. Capsule endoscopy is a recent investigative modality introduced in Nepal. Defecography studies are not available. MRI facilities are limited to the capital and metropolitan cities. There is only one center with PET CT facility in the country.

Oncology in Nepal was heralded in 1991 when country's 1<sup>st</sup> radiation therapy center started with instillation of telecobalt at Bir Hospital, primarily only chemotherapy and surgery were provided<sup>15, 16</sup>. Bhaktapur Cancer Hospital is the major government hospital dealing with cancer patients in the valley and B. P. Koirala Memorial Cancer Hospital in Bharatpur, out of the valley; though other hospitals and private institutes provide chemotherapy and oncological surgical facilities but radiotherapy is not available in all hospitals. Recently a few private cancer hospitals have been established which provide all three aspects of oncology treatment. Presently, B. P. Koirala Memorial Cancer Hospital contributes to the treatment of most cancer patients, followed by BPK institute of Health Sciences, Bhaktapur Hospital and Manimal Teaching Hospital <sup>15 17, 18</sup>.

Due to the non-existence of a population based national cancer registry system in Nepal, there are no exact figures in terms of cancer epidemiology, although there are twelve hospital based cancer registries operating throughout the country<sup>19,20</sup>. There are no national screening protocols for colonic or rectal carcinoma in Nepal. The screening protocols vary from hospital to hospital and are dependent on the clinical history, presentation, family history and age. This maybe because there is a low incidence of colorectal cancer in Nepal, single institute studies have rated it as the 6<sup>th</sup> most common cancer. In a 10-year survey of hospital based cancer registries colon and rectal cancers constituted only 2% each of the total cancer incidence, with a slightly higher incidence in males<sup>18,21</sup>.

All major hospitals, both government and private, carry out major colorectal surgeries. . There is no official national or hospital yearly data available except for some timely publication of studies. Reviewing hospital data of the major hospitals of the capital, the frequency and number of cases performed are more in high patient flow centers and range from 12-66 per year depending upon the institute. Bhaktapur Cancer Hospital being a specialist center for oncology performs the most cases. Procedures like abdominoperineal resection (APR), anterior resection with total mesorectal excision (AR with TME), low and very low anterior resection (LAR/VLAR), both right and left hemicolectomies, stoma formation and extended/ subtotal/total colectomies are regularly performed in all centers. Right hemicolectomy, AR and APR are the most commonly performed procedures. Though laparoscopic surgery started in Nepal in the late 1990s, it is only since the last 3-4 years that colorectal laparoscopic surgery has been gaining ground. Only a handful of major colorectal laparoscopic cases have been done in various institutes, among them most have been laparoscopic assisted procedures with laparoscopic manipulation and external anastomosis, probably due to the high cost of bowel staplers. Laparoscopic assisted APR/AR being the most commonly performed procedure. Though the interest and want of a surgeon to perform laparoscopic major colorectal procedures is omnipresent, they are not regularly performed, which can be attributed to the high cost, availability of instruments, training, steep learning curve and expertise. Laparoscopic colorectal surgery is still in its infancy in Nepal and it is too soon to predict and assess its feasibility but the future looks promising.

The limitations surgeons face are late presentation of disease, unequal availability of modern diagnostic and interventional modalities, extremes of socioeconomic condition of patients and patients' preferring medical/surgical treatment in foreign countries.

Colorectal surgery has been a part and parcel of surgery, since it's advent in Nepal. Though Nepal still lags behind the west in surgical advancement, it has taken strides towards attaining betterment within its boundaries. The future need is a holistic approach to colorectal disease with a specialist team of gastroenterologist, Gastrointestinal/colorectal surgeons, radiologists and oncologists.

## References

1. Yadav Pitamber Lal. *Political History of Nepal*, 1996.
2. Manish Gautum. Dr AK Sharma, pioneer of modern surgery, no more. *The Kathmandu post*. Print Edition - 2014-10-09
3. BR Marasini. Health and Hospital Development in Nepal. *Journal of Nepal Medical Association* 2003;42: 306-311
4. RS Bhandari et al. Stapled Haemorrhoidectomy versus open Haemorrhoidectomy: a Prospective Comparative study. *Journal of Chitwan medical College* 2014; 4;10;7-11
5. AR Shrestha. Harmonic Scalpel Hemorrhoidectomy Experience with 100 cases. *JSSN Supp*.19;3;57-8
6. BK Lalit, Joshi A. Rectal Advancement Flap: Answer to High Intersphincteric Fistula in ano. *JSSN Supp*.19;3;56
7. Upadhyay PK et al. Use of Polypropylene Mesh for Treatment of Complete Rectal Prolapse: Should We Renounce? *Journal of GMC* 2014;7;1:9-13
8. Shakya VC. Laparoscopic Rectopexy for Rectal Prolapse. *Supp*.vol18.2;56
9. Shrestha UK et al. Clinical profile of 103 patients with abdominal tuberculosis in Nepal. *JAIM*;2015;04,08;51-6
10. P Kishore et al. Diagnosing abdominal Tuberculosis: A Retrospective study from Nepal. *The internet Journal of Gastroenterology*;6;2
11. YR Sharma. Abdominal tuberculosis- a study of 25 cases. *KUMJ*;2003;2;2;6;137-141
12. Shrestha S et al. Abdominal Tuberculosis in Nepal Medical College Teaching Hospital, Kathmandu. *SAARC Journal of Tuberculosis Lung Disease & HIV/AIDS*. 2008
13. Thapa B et al. Management of Ano-Rectal Malformations in a Tertiary Level Children's Hospital of Nepal. *J. Nepal Paediatr. Soc.*2014;33;3;196-200
14. Rajbhandari M et al. Histomorphological Profile of Colonoscopic Biopsies and Pattern of Colorectal Carcinoma in Kavre District. *Kathmandu Univ Med J*;2013;43;3:196-200
15. Piya MK. Oncology in Nepal. *South Asian Journal of Cancer* ;2012;1;1:5-8
16. Subedi KS et al. Cancer Treatment in Nepal: A Historical Background, Development of Treatment Facilities, Epidemiology and Challenges for Prevention and Control of Cancer. *Austral - Asian Journal of Cancer*;2012;11;205-12
17. Kishore KP, Mina B, Bhakta MS. Multi-institution Hospital-based Cancer Incidence Data for Nepal: An Initial Report. *Asian Pac J Cancer Prev*. 2009; 10: 259-262
18. Sah SK et al. Pattern of Cancer in Nepal from 2003 to 2011. *Nepal Journal of Biotechnology*.2016;4;1:54-60
19. Poudel KK et al. Age specific incidence of five major cancers in Nepal, 2012. *Nepal J of Epidemiol.* 2016;6;2; 565-573.
20. Poudel KK et al. Hospital-Based Cancer Incidence in Nepal from 2010 to 2013. *Nepal J Epidemiol.* 2017;7;1; 659-665
21. VS Binu et al. Cancer Pattern in Western Nepal: A Hospital Based Retrospective Study. *Asian Pacific J Cancer Prev*;8;183-186

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