



## Review Article

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### INTEGRATED APPROACH IN DIAGNOSIS OF ANO-RECTAL (GUDA) DISEASES: A REVIEW

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Received on: 29/05/17 Accepted on: 09/07/17

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DOI: 10.7897/2277-4343.083173

#### ABSTRACT

A basic diagnostic work up with integrated approach of Ayurveda and modern science is sufficient to characterize the different manifestations of anorectal disorders in most of the cases. In the text of ayurveda rogi-pariksha (examination of patient) is well defined for diagnosis of diseases like Dashavidhpariksha (ten types of examination). Anorectal pathology is very common now a days and its incidences are increasing very fast over the last few decades in this era. The patient's history provides a great deal of information; clinical examination with digital examination supplemented with anoscopy or proctoscopy help in diagnosis of Ano-Rectal Disorders (ARD). Patient history with daily stool protocol, clinical and endoscopic investigation play important role in diagnosis. To assess the results of treatment follow-up investigations includes anorectal manometry, anal sphincter-EMG (Electromyography), conduction velocity of the pudendal nerve, needle-EMG, barostat investigation, defecography, CT (computed tomography) scan and MRI (Magnetic resonance imaging). Indication for surgical intervention is rarely seen and should be decided only after complete diagnostic work-up and only when all conservative treatment options have failed. Surgical treatment should be provided only in experienced clinical centres. Sometime specialized investigations are required in selected group of patients only.

**Keywords:** Ayurveda Rogi-pariksha, Anorectal, Anoscopy, Proctoscopy, Guda, DasvidhaPariksha.

#### INTRODUCTION

Anorectal disorders are progressively increasing day by day in the society and their prevalence in the general population is probably much higher than that seen in clinical practice. In Indian culture most of the patients do not disclose their problem being in sensitive region.

Primary anorectal disorders that may cause perianal irritation include haemorrhoids, fissure, fistula, chronic anorectal sepsis, proctitis or proctocolitis, skin tag, anal warts, hidradenitis, rectal prolapse and some rectal tumours, especially villous adenoma, anorectal polyps and rectal or anal carcinoma.<sup>1</sup>

These affects men and women of all ages and it can be ranges from benign (pile mass) to life threatening disorders (Anorectal Cancer). Assessment of anorectal disorder comprises of a careful history and local per rectal examination before going for the various investigations.

Beside Rogi and Rogapariksha, our ancient scientist Sushruta has also mentioned like Arsoyantra (instrument to see piles) and Bhagandaryantra's (Special instrument to assess fistula-in-ano) for diagnosis of the guda disorders.<sup>2</sup>

#### History Taking

Detail of the key proctological symptoms – pain, constipation, bleeding, altered bowel habit, incontinence, swelling, discharge and irritation should be obtained. A family history with documentation of previous gynaecological, urological, abdominal and anal operation must be recorded in the sequence.<sup>3</sup>

Anorectal pain usually is associated with an anal fissure or an abrasion in the anal canal. Tenesmus, which is a symptom complex of straining and the urge to defecate, frequently is associated with inflammatory or neoplastic conditions of the anorectum. Because the lower anal canal obtains its innervation from the somatic nervous system, any pain-producing lesion in the anal canal is likely to be described as sharp, burning, or cutting or stinging. The pain associated with a perianal abscess usually is described as throbbing in nature. Pain that increases in intensity when the patient coughs or sneezes often is associated with an intersphincteric abscess. Because anorectal pain may be referred to the sacral region, great care must be taken in eliciting the history as it relates to a bowel movement. The typical history of levatorani muscle spasm, better known as proctalgia fugax, frequently is misdiagnosed as hemorrhoidal or fissure pain. Referred pain to the rectum may occur from aneurysmal dilatations in the pelvic vascular tree or from retro rectal tumours. Usually, this condition is described as a feeling of fullness in the area. Coccygeal pain rarely is anal in origin; most patients who complain of this type of pain have sustained some trauma to the ligaments or periosteum of the coccyx. Occasionally when a presacral cyst is inflamed, the pain may be referred to the coccyx.<sup>4</sup>

PR Bleeding that drips into the toilet bowl and is bright red, free, and separate from the stool is frequently associated with bleeding internal hemorrhoids. Blood that is on the toilet tissue tends to be associated with anal fissures or an abrasion of the anal canal. Although melena can be caused by any pathologic process higher up in the gastrointestinal (GI) tract, it also can come from the right colon. The association of blood and mucus usually indicates a low-lying carcinoma or, more frequently, an inflammatory condition, such as ulcerative colitis or Crohn's disease. If blood

clots are being passed, the source usually is of colonic origin. A rare cause of “bleeding” that frequently is misdiagnosed comes from eating beets. Diarrhoea is a symptom of many gastrointestinal diseases. The duration, amount, character, and frequency of the diarrhoea should be determined. Clear watery diarrhoea may be from a large secretory rectal villous adenoma. A bloody mucous diarrhoea may indicate inflammatory bowel disease. Operative procedures such as vagotomy, cholecystectomy, or small bowel resection may alter gastrointestinal motility, absorption, and secretion, and consequently will alter bowel habits. Patients who have had a jejunioleal bypass for morbid obesity are subject to many anorectal problems associated with diarrhoea.

A normal person should have at least three bowel movements per week and maximum two bowel movements per day without any abdominal discomfort.<sup>5</sup> To a patient, constipation may mean a variety of conditions, such as stools that are infrequent, hard, small, or difficult to pass and unsatisfactory defecation. To determine the necessity for further investigation, it is important to know the duration of the constipation, whether the onset is recent or if the condition is a chronic one. Constipation can be the result of a pelvic floor disorder.

#### **Dashavidhpariksha<sup>6</sup>**

Dashavidhpariksha bhavas (10 factors to be examined in a disease) are kaarana (cause of action) karana (instrument) karyayoni (original source of action) karya (action) karyaphala (result of action) anubandha (after effect) desha (place of action) kala (time) pravrutti (initiation of action) upaya (plan of treatment)

Examination of patient is conducted for the knowledge of lifespan or degree of strength. Weak patients are not able to bear intensely potent drugs. On the other hand, the drug having low potency and applied to strong patients having severe disorders becomes ineffective. Hence the patients should be examined by dashavidhpareeksha for the selection of treatment and drug dose and to know the prognosis of disease.

#### **Prakruti Pariksha (understanding body constitution)**

It is the inherent characteristic property of an individual refers to the genetically determined physical and mental makeup. It is determined by sperms, ovum and dosha dominantly the sperms and the ovum during the time of conception and also those inhabiting the uterus at that time determine the prakruti of the individual. Food and regimens of the mother aggravates doshas at that time and also determine the physical constitution. Characteristic diagnostic parameters for the determination of dehaprakruti. Individual having shlesh predominant prakruti is endowed with the excellence of strength, wealth, knowledge, energy, peace and longevity. Pitta predominant prakruti is endowed with moderate strength, moderate span of life, moderate spiritual and materialistic knowledge wealth. Individuals having vata predominant prakruti most possessed of strength, span of life, procreation, accessories of life and wealth in lesser quality. The authentic Ayurvedic text Charaka samhita, Sushruta samhita explicitly explains how to identify dosha properties through signs and symptoms leading to a manifestation of prakruti and diseases. Recently, few studies observed genetic bases for prakruti. Construct of prakruti has been correlated to human leukocyte antigen (HLA) gene polymorphism.<sup>7</sup> Biochemical profiles and hematological parameters exhibited differences between prakruti types. A significant association between CYP2C19 genotype and major classes of prakruti types was observed. Another study showed platelet aggregatory response, and its inhibition by

aspirin varied in the different prakruti subtypes.<sup>8</sup> This prakruti related evidence is likely to have a significant impact on personalized medicine. However, there is a lack of quantitative studies such as reliability of prakruti assessment. Based on the combination of one or more bioentities, seven types of prakruti are described as vatataja, pittataja, kaphataja, vatakapataja, vatapittataja, pittakaphataja, and vatapittakaphataja. Prakruti an analysis helps in prioritizing any nurturing, preventive, and curative regimen specific to an individual. Thus, prakruti-based prescription helps to enhance the therapeutic effect of a regimen and to reduce the unwanted effects of the drug. For more reliable diagnosis results, analysis of the prakruti assessment itself is very essential. Prakruti represents a natural combination of one or more doshas.

#### **Vikruti Pariksha (Examination of Morbidity)**

A patient has to be examined in respect of vikruti as well. The morbid manifestation or to be examined with reference to in term of specific causative factor, doshas, dathus, involved in the pathogenesis, prakruti (constitution) of an individual, desha (habitat), Kala (season), Bala (Strength), symptoms these without determining the strength of the causative factors etc. If the afflicted doshas and dhatus physical constitution of patient (prakruti), desha, kala, bala, of the individual resemble that of disease in quality and the causative factors and symptoms are too strong and numerous. The disease manifested is acute and severe. This is done for dosha Bala pramana of atura to assess the vyadhi: hetu (cause), dosha, dusya, prakruti, desha, kala and Bala. The vyadhiBala is assessed by the intensity of etiology (hetu), symptoms of diseases parameters with different conditions namely of easily suksadhya (curable), krichsadhya (moderately curable) and asadhya (in-curable).

#### **Sara (Examination of essence of dhatus)**

Sara is mentioned to assess of bala and ayu of the patient. Bala means biological strength or power of resistance against the diseases. It is defined as based on Dehaprakruti (biophysical constitution) depending upon the predominance of particular dhatu in respect of good quality as well as of good quantity. The physical and psychological characteristic of different sara described in text are the reflection of states of dhatusara in the form of structure and functions. It is defined as tissue vitality, tissue quality, and constitutional essence. According to modern knowledge sara can be considered as the optimum degree of genetic code of an individual's DNA with respect to particular dhatu. Genetic code is the system of storage of genetic information's is chromosomes of living cells that instructs the machinery for polypeptide synthesis to insert a living cells to insert a particular amino acid in response to the nucleotide sequence of genetic material. In our body every individual's DNA has the different genetic code. So, we can say, the quality of Dhatus of every individual will depend upon the genetic code of the individual's DNA. If the genetic code of the individual's DNA with respect to that dhatu is optimum, the formation of the particular dhatu in the body will be of very good quality. Sarvasarapurusha has the optimum degree of the genetic code with respect to all dhatus. It is the most reliable and practical examination for Balapramana. Acharya Charaka has used the term Balam/Balavanta for three saras i.e. mamsasara, majjasara and suksarasara to denote good body strength (Bala) during description of sara.

#### **Samhanana (compactness)**

Patient must be examined with reference to his compactness of the body. A person having compact body and he reflects the quality of overall body build. Clinically patient may be assessed

prava, madhyama and avara samhanana depending on the compactness of body organs. Pravara samhanana –Symmetrical and well demarcated bones, well joints, well bound muscles blood, strong built, excellent strength. Madhyama samhanana – Moderately symmetrical and demarcated bones, moderately joints, moderately bound muscles blood, moderately built, moderately strength. Avara samhanana –Weakly symmetrical and demarcated bones, weakly joints, weakly bound muscles blood, weak built, weak strength. This samhanana is necessary to assess during examination for prognosis of disease and planning for shodhan treatment.

#### **Pramana (Anthropometry-examination of measurement of bodily organs)**

This is determined by measuring the height, length and breadth of the organ by taking the finger breadth of the individual as the unit measurement. A body possessed of organ having proper measurement is endowed with longevity, strength, ojas, happiness, power, wealth and virtues. If the measurement is either on the high or low side, the individual possesses qualities contrary to what are mentioned for proper measured body. For clinical assessment, it can be subdivided into three: PravaraPramana-standard measurement criteria excellently height, length and breadth, Madhyamapramana- standard measurement criteria moderately height, length and breadth and Avarapramana-standard measurement criteria lesser extent height, length and breadth. Pramana pareeksha described in texts of Ayurveda as measurement of the body for Balapramana and used anguli pramana as a unit. In relation with Balapramana, height has an important relation with bodyweight so this relation is expressed through Body Mass Index (BMI =Weight (kg)/height (cm). In Balapramana body frame is parameter too in which bone - mass and muscle - mass plays a major part in Balapareeksha which vary in size and density from person to person so body frame also considered for pramana pareeksha of the body.

#### **Satmya (Suitability or examination of homologation)**

It stands for such factors as are wholesome to the individual even when continuously used. Individuals for whom ghee, milk, oil and meat soup as well as the drugs and diets having all six rasa are wholesome are endowed with strength, the power of facing difficult situations and longevity. Those who are accustomed to unctuous things and drugs and diets having only one particular taste, are mostly possessed of less strength, less power to face difficult situations, are of smaller life span of inadequate accessories like drugs for the treatment of his diseases. If there is combination of the both types of homologation, individual are possessed with moderate strength. If an individual accustomed to use only such drugs diets having one and the same taste the drugs and diets possessed of the remaining tastes will be unwholesome for him. People who are constantly used to ghrita, kshera, taila, mamsa rasa, and all types of rasas are strong, enduring and long-lived and those who used to irregular diet and single rasa are often weak, un-enduring, and short lived with a little means. Peoples who having mixed suitability have medium strength of the body.

**Satva (psyche-examination of mental faculties)** -Satva is mind and it regulates the body because of it is associated with soul. Depending upon its strength, it is of three types, viz. pravara (Excellent mental faculties), madhyama (Moderate mental faculties) and avarasatva (Inferior types of mental faculties) depending on their mental faculties. Among them, those having superior satva are in fact satvasarapurusha and their stout body frame seems to be stable even in severe affliction because of the dominance of satvalakshnas. Those who have Medium satva sustain themselves but those who have inferior satva never sustain

well themselves nor by others and they are unable to endure even during fierce, frightening, disliked, disgusting.

#### **Aharashakti - (Examination for intake of food)**

Digestive capacity of individual can be examined by two ways that is abhyavaranashakti (capacity to take food) and jaranashakti (power of digestion). Strength and life span of the individual are determined by the diet. It all depends on the condition of the Agni residing in the body. That's why acharya defined the role of Agni in the manifestation and aggravation of the diseases. If individual possess a good digestive power then he will be able to sustain the stronger therapies as a consequence he will recover quickly from the afflictions. Protection of Agni by any means is necessary to maintain excellent digestion and power of ingestion, this leads to stronger immunity to resist against dreadful diseases. This may be classified into three subtypes for the purpose of clinical assessment. Pravaraahara Shakti (excellent power of digestion), Madhyamaahara shakti (Moderate digestive power) Avaraahara shakti (weak digestive power).

Person is unable to digest even small quantities of food these persons suffers from diseases very often and endowed with less strength longevity, immunity and unable to sustain the stronger medicaments. Mild medicaments are required for the effective management and medicines should be administered for longer duration to recover from diseases. This is examined by the capacity to take food (abhyavaranashakti) as well as power of digestion (Jaranashakti). Strength and life depend on diet, jaranashakti is assessed by Udgarasuddhi (Normal education), utsaha(Enthusiasm), vegotsarga- yathochita (Occurrence of normal urges on time), laghuta (feeling lightness), ksut (appetite) and pipasa (thirst). In clinical practice assessment of Agni is very important for the selection of medicine, selection of treatment modalities and fixation of dose of medicine.

#### **Vyayamashakti – (capacity of exercise)**

The vyayama Shakti (power of exercise) should be examined by the capacity for work. Vyayamashakti is an important component of dasavidhapareeksha. It is alone a competent for assessment of bala. For the assessment of vyayamashakti three parameters were selected which are breath holding exercise, stepping exercise, measurement of basal pulse rate. Pravavyayamashakti - Individual possess excellent exercise endurance. Madhyavyayamashakti-Individual possesses a moderate power of exercise. Avaravyayamashakti-Individual possesses a mild power of exercise.

#### **Vaya (Examination in respect of age)**

Vaya can be defined as the length of time which has passed since birth. It is broadly divided into three stages – bala (childhood), madhya (middle age), jeerna (old age). Childhood can be determined up to sixteen years when the dhatus are immature, sexual character are not manifested where the body is delicate, unstable with incomplete strength and in kaphadosha predominant.<sup>9</sup> Middle age can be assessed by strength, energy, virility, acquisition, retention, speech, understanding and qualities of all dhatus having reached the normal limit, proper physical and mental strength, without degeneration in qualities of dhatus. In this age predominance of pitta dosha present up to 60 years of the age. In this age stronger medicaments may be helpful to gain the success of treatment. Old age can be up to one hundred years old. Dhatus strength of sense organs, energy, manliness, power of understanding, retention, memorizing, Speech will be diminished in this age and analysing facts with gradually diminution in qualities of dhatus and Vata dosha dominance in

the body will be higher. There are persons who live longer or shorter than that in such cases, one should determine the three divisions of age on the basis of today's life span 71.4 years old is the average life expectancy at birth of the global population.<sup>10</sup>

#### Physical Examination: In ARD Patients

**Position:** The position of examination depends upon the surgeon's choice and convenience for the patients both. Three positions commonly employed by surgeons for examination, they are Left Lateral or Sim's position, Knee Shoulder or chest position and Dorsal position or lithotomy position. It can be argued that more information can be obtained in the knee-elbow position but generally done in left lateral position with buttocks protruding over the edge of the table, hips flexed, knees slightly extended and right shoulder rotated anteriorly. **Inspection:** Perianal area should be inspected for any skin tags, excoriations, scars, or any change in colour or appearance, a patulous anus, rectal prolapse, dermatological problems. The position of the perineum at rest is noted. During straining a rectocele, haemorrhoids and anal polyps, intra-anal warts or a rectal prolapse may become visible. In case of rectal prolapse it may be necessary to examine the patient during straining on a toilet.

**PR Digital:** Index finger is lubricated with Xylocaine jelly for digital examination which helps in appreciating any mass, induration, stricture, apart from assessing the resting tone and strength of squeeze pressure. In males, prostate can be assessed whereas in females rectocele can be detected after pushing forward the vaginal wall. In the case of tumour, its position, size, and characteristics, especially whether it is polypoidal, sessile, or ulcerated, together with its depth of bowel wall involvement, mobility, fixity and relationship to local anatomy, must be recorded. Anoscopy enables a satisfactory examination of anal canal and distal rectum. For complete examination of anorectum, proctosigmoidoscopy is the preferred method. Any suspicious area can be biopsied.<sup>11</sup>

#### Digital Rectal Examination (DRE)

This is most informative, painstaking examination and should not be missed. Gloved lubricated finger is placed at the anal verge and gently inserted through the anal canal into the rectum with Xylocaine jelly 2% as lubricant. Rectal mucosa is systemically examined for benign or malignant lesions. It is possible to feel at least 10 cm from anal verge. 90% of benign and malignant growth can be diagnosed with the help of DRE. Assessment of anal sphincter is made with assessment of resting tone and voluntary contraction. The rectal examination is conducted systematically in orders like: Lumen of anorectal canal and its contents wall of anorectal and including mucosal, submucosal and muscular layers → extra rectal or outside the wall of anorectal canal anteriorly, posteriorly and laterally should be also examined for related pathology.<sup>12</sup>

#### Proctoscopy / Anoscopy

It is a visual examination of the lower part of rectum and anal canal through a proctoscopy. The proctoscopy with obturator in situ is well lubricated and introduced into the anal canal. The instrument is introduced at first in the direction of the axis of the anal canal, i.e. upward and forwards towards the patients umbilicus until the anal canal is passed. The instrument is then directed posteriorly to enter into the rectum properly. Now the obturator is withdrawn and the inside of the proctoscopy is well illuminated. Haemorrhoids, internal opening of the fistulous tract, ulcer, growth, anal polyps, fissures and ulceration can be identified.<sup>13</sup>

#### Laboratory Investigations

Stool examination can be done if infectious diarrhoea or sexually transmitted disease is suspected. Routine Blood Examination: - Blood sugar, Haemoglobin%, TC, DC, ESR, BT, and CT to assess the systematic disease. Histopathological Examination is done to know the histological diagnosis of the mass or the suspicious growth or tubercular lesion seen in proctosigmoidoscopy or colonoscopy.

#### Imaging Studies

Anoscopy can detect any growth and haemorrhoids in the anal canal while proctosigmoidoscopy can find the pathological lesion from upper rectum to sigmoid colon. Fistulography is a good diagnostic method for detecting the fistula location but no a day not used frequently due to new advancement of radiology.<sup>14</sup> The TRUS (Trans rectal ultrasonography) is a new technique with is being used to diagnosis of fistula-in-ano.<sup>15-16</sup> In rectal tumors, phased array magnetic resonance imaging (MRI) will be regarded as the most appropriate single technique for finding the stage of disease. Endosonography or endoluminal MRI with ultrasonography or spiral computed tomography (CT) in combination gives near about similar results. In all techniques have limitations both for local staging and in metastases so MRI or positron emission tomography (PET) is preferable for tumor recurrence. In the case of perianal fistula, high-resolution MRI (phased array or endoluminal) is the technique of choice and said to be gold standard for diagnosis of complicated fistula-in-ano now a days.<sup>17</sup> In the case of constipation, defaecography is the preferred technique. Fecal incontinence, endosonography and endoluminal MRI in all these cases give similar results in detecting sphincter defects. For external sphincter atrophy Endoluminal MRI is better option whereas High-resolution MRI, endosonography and defaecography are used as the optimal imaging techniques for anorectal diseases.<sup>18</sup>

#### Other Investigations

Electromyography, Anorectal manometry, anal sphincter-EMG, conduction velocity of the pudendal nerve, needle-EMG, barostat investigation, defecography, and electromyography may help in the assessment of anorectal incontinence, constipation or any other pelvic floor and anorectal disorders.<sup>19</sup>

#### Differential Diagnosis

Differential Diagnosis of Ano-Rectal disorders (ARD) are may be anal fissure, perianal abscess with or without fistula, thrombosed external haemorrhoid, levator ani syndrome, proctalgia fugax, coccydynia, fecal impaction, neoplasm (rectal, pelvic or cauda equina), idiopathic, inflammatory bowel diseases (ulcerative colitis, Crohn's disease), solitary rectal ulcer, pruritis ani, trauma, constipation, diarrhoea, familial rectal pain, endometriosis, pelvic inflammatory disease (PID), prostatitis, foreign body. External haemorrhoids, internal haemorrhoids, condylomata acuminata or genital warts, prolapse rectum (complete/ partial/mucosal), rectal polyp, rectal or anal carcinoma, hypertrophied anal papilla or external skin tag, perirectal abscess, anal fissure and fistula, rectal varices as in portal hypertension, rectal cavernous hemangioma, fistula-in-ano.

#### CONCLUSION

For Evaluation of the cases of Ano-rectal disorders (ARD) following steps are concluded as good way of practice. Detail History → Dashavidha pariksha → physical examination → Local

examination → Digital rectal examination → Anoscopy/Proctoscopy → if further required → Sigmoidoscopy/Colonoscopy → Other investigation like → contrast fistulogram or Trans rectal ultrasonography (TRUS) or MRI Fistulogram / Endoscopic Ultrasound / CT scan / Anorectal Manometry / Defecography / Electromyography → Additional systemic examination.

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## Cite this article as:

Bijendra Shah and Tukaram Sambhaji Dudhamal. Integrated approach in diagnosis of Ano-rectal (guda) diseases: A review. Int. J. Res. Ayurveda Pharm. 2017; 8(Suppl 3):72-76 <http://dx.doi.org/10.7897/2277-4343.083173>

Source of support: Nil, Conflict of interest: None Declared

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