

The Obstetrical Profile of the City of Lahore for the Year 1986

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This historical city of Lahore, owes its name to Ramchandra's younger brother called "Laho", has grown its population to about 3.5 million to day. The population growth rate of Pakistan is about 3% and the expected number of births in Lahore in the year 1986 should have been 105,000. The births registered with the Lahore Municipal Corporation from first January 1986 to 31st December 1986, were 93,231. We should have had about 12,000 of un-registered births during this year, considering the city growth rate to make total of 105,000. We collected birth figures from all the Hospitals of the city of Lahore which have maternity beds and below are listed the number of deliveries in these hospitals.

Dais working under L.M.C and registered with Lahore Municipal Corporation = 45
Dais registering cases with Lahore Municipal Corporation = 500.

This analysis of personnel, indeed shows that the number of Obstetricians available for over 100.00 deliveries yearly is in-indeed very inadequate.

ANTE-NATAL CLINICS:

All these major hospitals with only one exception, have regular antenatal clinics. We do not have reliable figures of the first Ante-Natal bookings. However it is my

TABLE-1.

NUMBER OF DELIVERIES IN DIFFERENT HOSPITALS OF LAHORE CITY DURING 1986

Hospitals	1	2	3	4	5	6	7	8	9	
No. of Deliveries	1030	5290	1566	2505	7194	6050	972	941	4506	Private Clinics and Maternity homes about 5000

About 34,074 deliveries have taken place in a hospital situation, which is about 32.54% of the total number of deliveries. The remaining about 67.55% of deliveries take place at home. The personnel trained to supervise these deliveries are as under:

- (A) Consultants i.e M.R.C.O.G. in Hospital = 31
F.R.C.S / F.C.P.S. in Private practice = 7
Diploma Holders in Hospitals = 27
Diploma Holders in private practice about = 20.

The resident staff in these hospitals has been worked out as five resident staff per consultant and as such would be about 155 resident Doctors,

impression over the last many years, that less than 40% of patients who come to these Ante-Natal clinics, later come for delivery to these hospitals. The big question is why don't they come? Perhaps the reason for not coming to hospital for delivery is cost and the inconvenience involved. Hospitalization in our country means total dislocation of the family system. beside the inconvenience of making repeated trips to the hospital to deliver to the patient food and medicines. The facilities offered in these ante-natal clinics are very basic. No hospital runs a high risk pregnancy clinic. Patients are mostly seen by junior level doctors and only referred cases are seen by consultant staff. Some don't have the facility of doing the routine urine analysis. Some of these hospitals have the facility of ultrasound machine, but these machines are located in the Radiology department and patients have to make separate trips to have the scan, entailing more cost and inconvenience.

TABLE-2

NUMBER OF STILL BIRTHS PER 1000 DELIVERIES

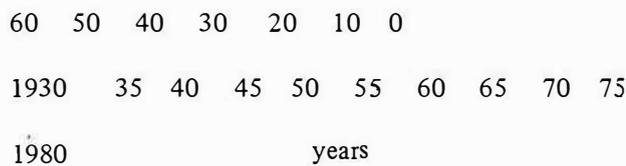
Hospitals.	1	2	3	4	5	6	7	8	9
No. of stillbirths	33	296	127	145	429	708	19	65	106
Stillbirths per thousand.	32	55.9	81	57.8	59.6	117.02	19.5	69.1	23.5

STILBIRTHS IN HOSPITALS:

We have collected only one parameter from these hospitals i.e the number of stillbirths. It indeed provides a dismal picture, the range varies as much as 19.5 to 117.02 per 1000 births.-(Table-2).

PERINATAL MORTALITY RATE OF ENGLAND

Perinatal mortality per thousand births



Perinatal death rates in England and Wales (1929 - 80)
(Courtesy of Dewhurst's Textbook of Obstetrics & Gynaecology for Postgraduates).

The average rate of stillbirths in these hospital deliveries is 47.6 per thousand births. Figures for perinatal loss, perinatal morbidity, maternal morbidity and mortality have not been collected. It should be understood that this level of obstetrical performance, is indeed not a reflection on the standard of work in these hospitals. We are aware that these hospitals have more than 50-60 % of their deliveries from the unbooked population, who have received no ante-natal care and are admitted as emergency, after some complication of one nature or the other has already occurred. It is then naturally expected that both perinatal and maternal morbidity and mortality is bound to be high. However it takes not much imagination to visualize, as to what a dismal picture it is for women who live in the rural areas and we know that they are 70 % of the total women population. It is difficult to calculate the perinatal mortality,

for these figures are not easily available, nor one can take into account the babies who die at home after discharge from hospital in the first week of life. It is interesting however to look at this graph of perinatal mortality of England and (Graph) Wales from 1929-1980 and realize what that country has achieved in this area in about 50 years.

SUGGESTIONS AND CONCLUSIONS:

1. It is unlikely that in the near foreseeable future, the medical facilities in this city will expand so much, to make it possible for most of the deliveries to take place in the hospital. As such there is need for intensive training, supervision and support to the traditional birth attendants, who conduct about 70% of the deliveries even in the city of Lahore.
2. It is without any doubt, that we need more specialists in this speciality.
3. We should aim at better utilization of the existing facilities and run our ante-natal clinics in a more organized manner than at present.
4. All teaching hospitals should develop high risk pregnancy clinics, where all these high risk cases be directly seen and supervised by the consultant staff. We in Sheikh Zayed Hospital have now developed a high risk pregnancy clinic and have to enlarge its scope to the extent, that in all probability in the future, we will mostly be booking high risk pregnancy cases for delivery. This will not only provide a better opportunity to our doctors for training both in the ante-natal care and intensive intrapartum monitoring but also this should certainly make a positive contribution to reduction of perinatal deaths at least in the hospital deliveries acknowledgement. I am grateful to the Resident staff of the department of Obstetrics & Gynaecology, who personally went to the various hospitals to collect these figures.

CARDIAC ACHALASIA.

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Achalasia is a motility disorder of the esophagus with the following characteristic features; loss of esophageal peristalsis, dilation of esophagus and a high-pressure lower esophageal sphincter (LES) with incomplete relaxation. Five such cases with disabling symptoms of dysphagia, regurgitation and chest pain were diagnosed and treated in this preliminary study. These patients were treated with balloon dilatation of LES and two surgically. Marked relief of symptoms was achieved in all patients without any major complications. Efficacy of therapy was objectively evaluated by barium swallow and Tc 99m radionuclide solid/liquid phase esophageal emptying before and after the therapy.

INTRODUCTION

Achalasia is a motility disorder where aperistalsis in the body of the esophagus coupled with poorly relaxing high pressure LES leads to dysphagia and regurgitation. Over a period of several years esophagus may become hugely dilated which may or may not be amenable to forceful dilatation.

Three major histologic changes have been described:

- (a) loss of ganglion cells within the myenteric plexus,
- (b) degeneration of vagus nerve, and (c) qualitative as well as quantitative changes in the dorsal motor nucleus of the vagus.

Various etiologic factors have been suggested i.e. autoimmune disorder with mononuclear infiltration of the myenteric plexus, neurotoxic viruses infiltrating the vagus and other nervous connections. finally, in certain instances, the familial occurrence in parents and children twins, and siblings suggests a genetic etiology (5).

Materials and Methods

Five cases of achalasia with mean age 49 yr (range 32-65 yr) are reported, four were male and one female. They were admitted at Shaikh Zayed Hospital from April 15, 1987 till October 15, 1987. After a thorough history and physical examination, they had CBC, X-Ray chest, ECG, barium swallow, upper endoscopy, solid/liquid phase esophageal emptying study at INMOL (institute of Nuclear Medicine and Oncology Lahore.)

TABLE-1

CLINICAL DATA OF 5 PATIENTS WITH ACHALASIA. 3 PATIENTS HAD BALLOON DILATATION AND TWO HAD SURGERY.

Case	Age (Yr)	Sex	Radiologic Finding	Endoscopic Finding	Balloon Dilatation	Heller's Myotomy
A (M.I.)	53	M	Dilated Esophagus 4 +	Stricture Negative	Done	-
B (M.A.)	48	M	Dilated Esophagus 3 +	Stricture Negative	Done	-
C (A.Q.)	32	M	Dilated Esophagus 1 +	Stricture Negative	Done	-
D (M.A.)	45	M	Dilated Esophagus 1 +	Stricture Negative	-	Done
E (H.B.)	65	F	Dilated Esophagus 1 +	Stricture Negative	-	Done

All patients had barium swallow and endoscopy, revealed features of achalasia. On endoscopy absence of stricture or tumor at esophago-gastric junction (EGJ) and characteristic puckering of mucosa were observed. Endoscope entered the stomach with gentle constant pressure at the EGJ. Barium swallow evaluated by a consultant radiologist, was studied by visual impression and

keeping time for esophageal emptying. The improvement after dilatation was rated as significant or none. Significant meant as rapid emptying with a short barium column after 15 minutes whereas, none meant no apparent change.

ACHALASIA DILATATION

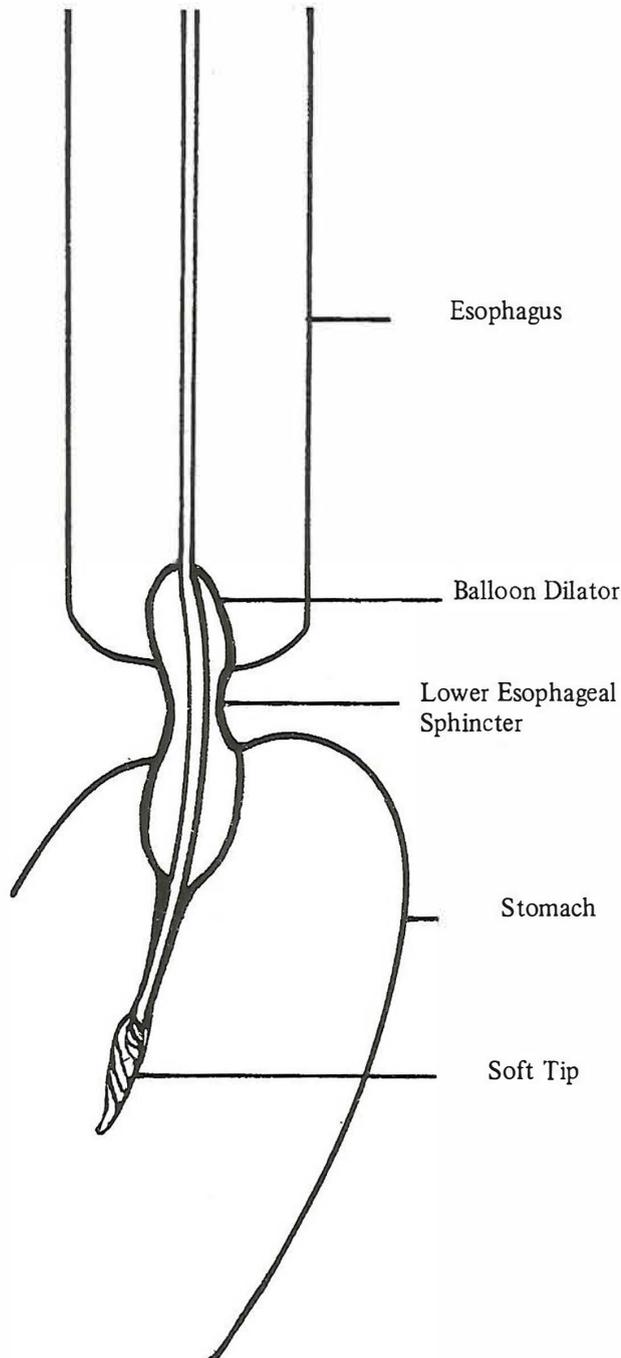


Fig.1. Diagrammatic representation of balloon dilatation of LES.

Microvasive (Milford, MA, U.S.A.) achalasia balloon dilator was used to dilate the LES in three patients. Each patient was sedated with 5 mg diazepam and 50 mg pethidine I/V during the dilatation. A guide wire was placed endoscopically in the stomach over which the balloon was passed by railroad method and LES was dilated under fluoroscopic control (Fig 1). Pressure upto 9 psi was

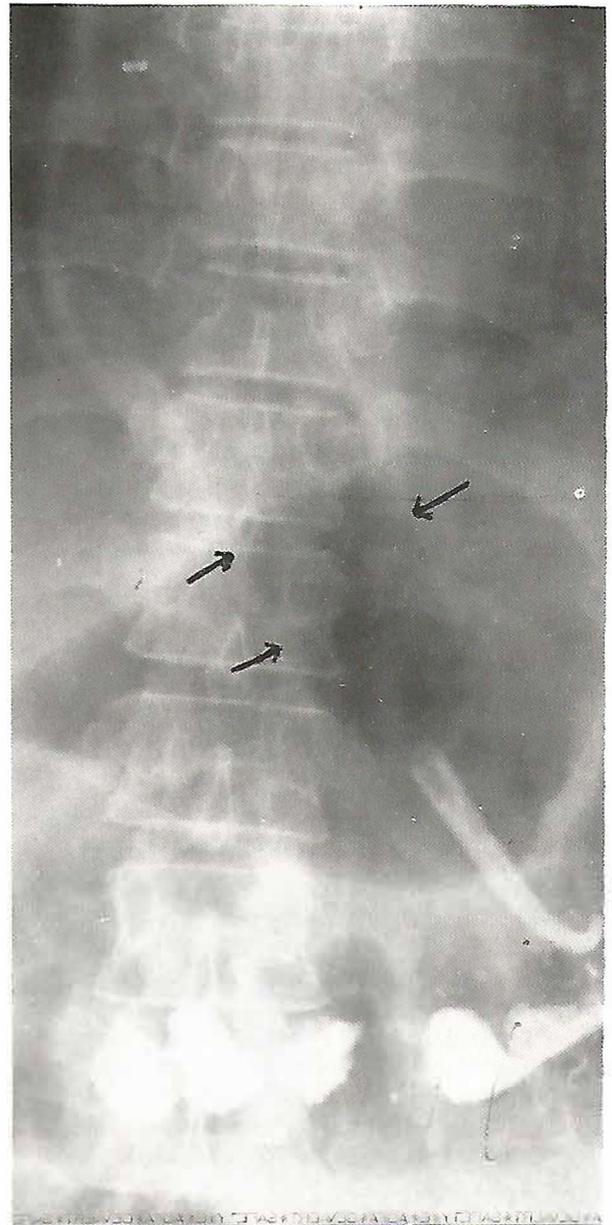


FIG: 1a Inflated balloon (Arrow) at the LES level for forceful balloon dilatation.

maintained upto one minute. Gastrografin swallow immediately after dilatation did not reveal any perforation in all the cases dilated. Radionuclide Tc 99 m solid/liquid phase esophageal emptying study was done in three patients before and one month after the balloon dilatation to objectively evaluate the efficacy of therapy. This was accomplished at INMOL By giving Tc 99 m DTPA 44 MCi labelled milk and eggs to swallow followed by recording the emptying of esophagus at 2,4,6 seconds sequentially upto 40 seconds and last count after 5 minutes. Counts at 2 second interval helped to calculate percentage improvement. Overall improvement after one month of followup was judged clinically, radiologically and by scintigraphic study of esophageal emptying. These results are shown in (Table 2, F6, 7). Clinical evaluation was rated as significant or none. Significant meant mild dysphagia to solids and liquids, occasional regurgitation and none meant no improvement.

Results

Three cases of achalasia were treated by forceful balloon dilatation and two by Heller myotomy. Two cases had markedly dilated esophagi whereas other three had moderate dilation (Fig 5, 8, 9).

Dysphagia was the most distressing symptom (90%). Others included regurgitation (80%), chest pain (40%), heartburn (25%), and chronic respiratory symptoms i.e. recurrent bronchitis, wheezing and pneumonia were (20%) (Fig 12).

Dilatation was arduous in two cases (A,B) where marked dilation and sigmoidization of the esophagus was observed.

Patient A was 53 year old male had 30 year history of dysphagia and occasional chest pain. Lost approximately 15 Kg. weight and had recurrent episodes of pneumonitis. He had upper endoscopy done twice at another medical center with no definite diagnosis.

Barium swallow revealed markedly dilated esophagus, showed multiple pseudo-diverticuli commonly known as sigmoid esophagus. The EGJ was markedly narrow (Fig 2). Nifedipine 10 mg sublingually and 20mg orally did not



FIG: 2 Markedly dilated, tortuous esophagus with pseudo-diverticuli (Arrow) formation, narrow EGJ (Arrow).

TABLE-2

RESULTS OF IMPROVEMENT BY CLINICAL, RADIOLOGIC AND SCINTIGRAPHIC EVIDENCE IN ALL PATIENTS.

Case	Treatment	Clinical	Radiologic (Ba. Swallow)	Scintigraphic (% Improvement)	Serious Complications
A	BD	Sig.	Sig.	80	None
B	BD	Sig.	Sig.	70	None
C	BD	Sig.	Sig.	60	None
D	Surgery	Sig.	Sig.	--	None
E	Surgery	Sig.	Sig.	--	None

Balloon Dilatation – BD

Balloon dilatation– B

Significant–Sig.

relieve dysphagia. Subsequently he had pneumatic dilatation of LES. Balloon placement was difficult due to marked tortuosity of the esophagus. After dilatation on April 30, 1987, he felt much improved in dysphagia with 5 Kg. wt. gain after one month. He did however, complain of chest pain of recurrent nature for one week, completely relieved by diazepam 5 mg given orally as needed. Three monthly follow up visits have shown no worsening of symptoms.

Barium swallow one month later showed less dilated esophagus and relatively rapid emptying and widened LES (Fig 3).

Radionuclide solid/liquid phase emptying study one month later also revealed rapid emptying and less retention

in the esophagus with approximately 10% after 14 seconds, none after 20 seconds. On the contrary it was 85% at 40 seconds pre-dilatation (Fig 6, 7)

There was significant clinical, radiologic and 80% scintigraphic improvement. Scintigraphic improvement was statistically significant ($p < 0.05$). The counts showed significant improvement in radionuclide evaluation (Fig 10, 11)

PATIENT B, was 48 year old male, visited out-patient dept. at Shaikh Zayed Hospital with 20 years symptoms of dysphagia and frequent nocturnal choking spells.

He had 10 Kg. Wt. loss. Upper endoscopy was done twice in another hospital where surgical approach was



FIG: 3 Post-dilatation LES (Arrow), much wider and early exit of barium from the esophagus.

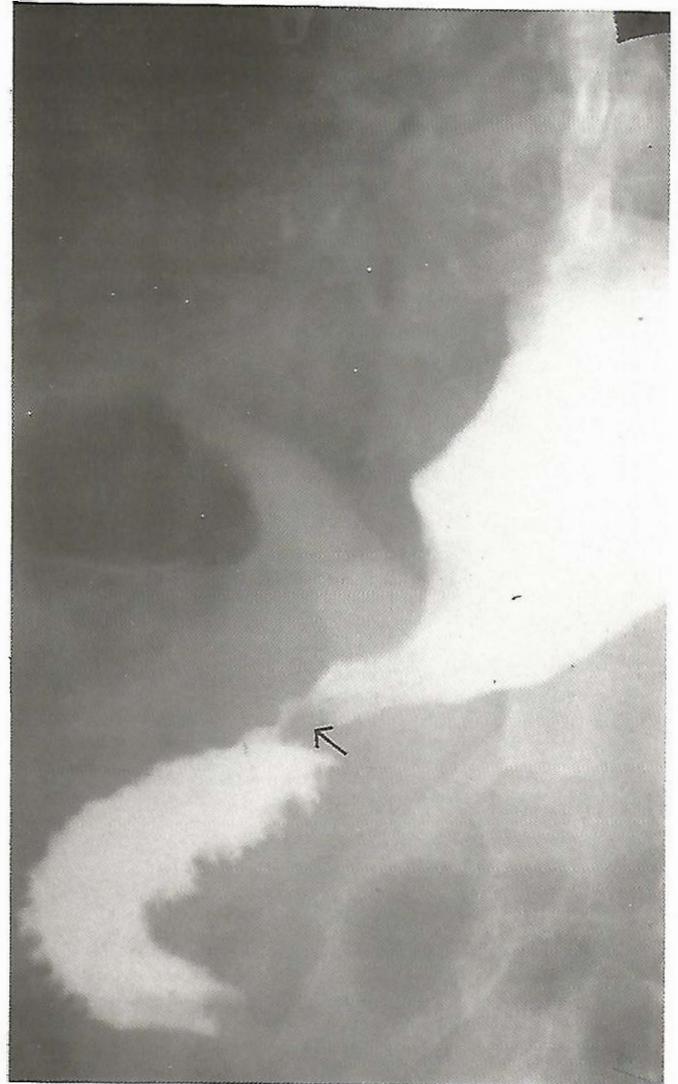


FIG: 4 Markedly dilated esophagus with narrow EGJ (Arrow).

suggested but he declined. His symptoms were temporarily relieved by valsalva maneuver and moving the shoulders backward.

Physical examination was normal. CBC, ESR, Hb. and urinalysis were normal. Barium swallow revealed markedly dilated esophagus with bird beak appearance (Fig 4). Endoscopic examination showed dilated esophagus, puckered EGJ. The endoscope could be entered into the stomach with gentle pressure without causing any bleeding.

Balloon dilatation was performed on September 23, 1987 as described above.

Placement of balloon was tedious as in patient A on account of markedly dilated, tortuous esophagus. Gastrografin swallow immediately after dilatation did not show any perforation. Marked relief in dysphagia and regurgitation was experienced by the patient following balloon dilatation.

Barium swallow after one month showed rapid emptying and less retention in the esophagus.

Radionuclide liquid/solid phase esophageal emptying study before and one month after dilatation was performed. It showed marked improvement in esophageal emptying with no retention of radionuclide material after 22 seconds (Fig 6, 7).

There was significant clinical, radiological and 70% scintigraphic improvement which was statistically significant ($p < 0.05$).

Patient C was 32-year-old male admitted at Shaikh Zayed Hospital with 6 month history of dysphagia associated with occasional chest pain. Physical examination, CBC, Hemoglobin, ESR were normal.

Barium swallow revealed dilated esophagus smoothly and absent air bubble in the fundus of stomach (F 5).

Endoscopy also showed dilated esophagus without any stricture or tumor.

Balloon dilatation of LES was commenced on May 10, 1987 by the method described above. Gastrografin swallow followed immediately did not reveal any perforation.

Barium swallow one month later showed relatively rapid emptying and less retention of barium.

Radionuclide liquid/solid emptying study of the esophagus before and one month after the dilatation showed marked improvement with complete emptying after 24 seconds (Fig 6,7). Significant clinical, radiologic and 60% scintigraphic improvement was observed.

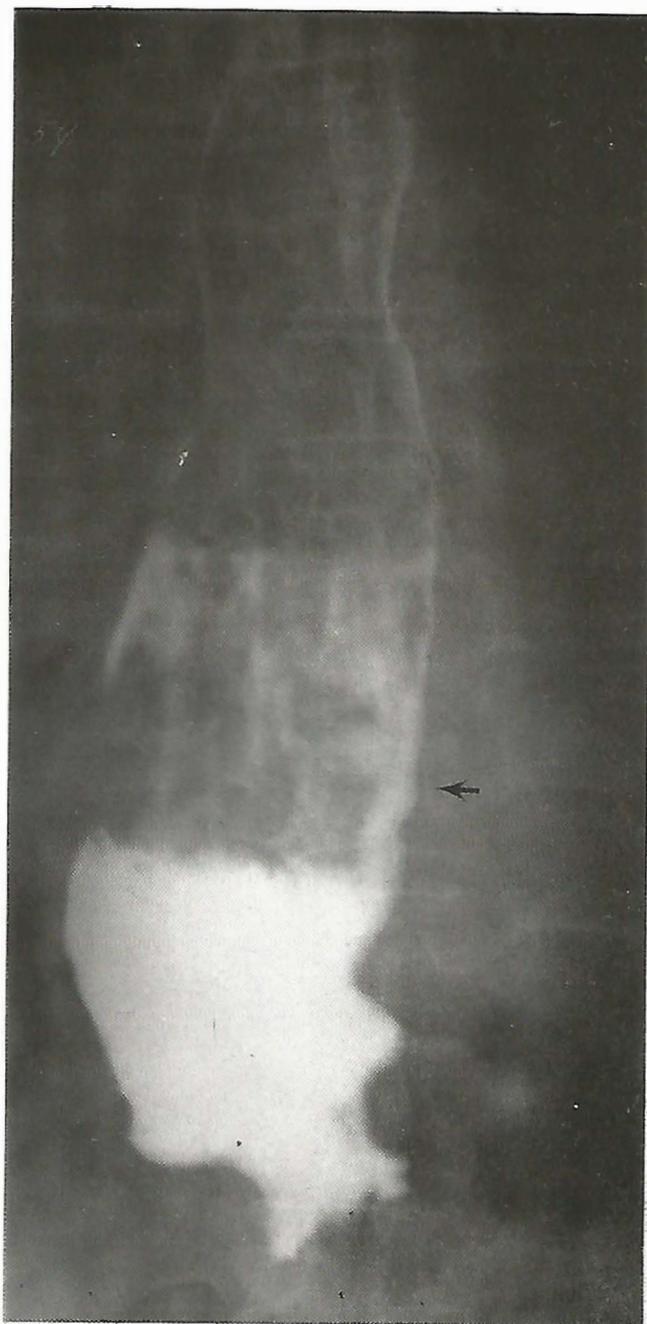


FIG: 5 Markedly dilated esophagus with barium and food stasis. EGJ is narrow (Arrow).

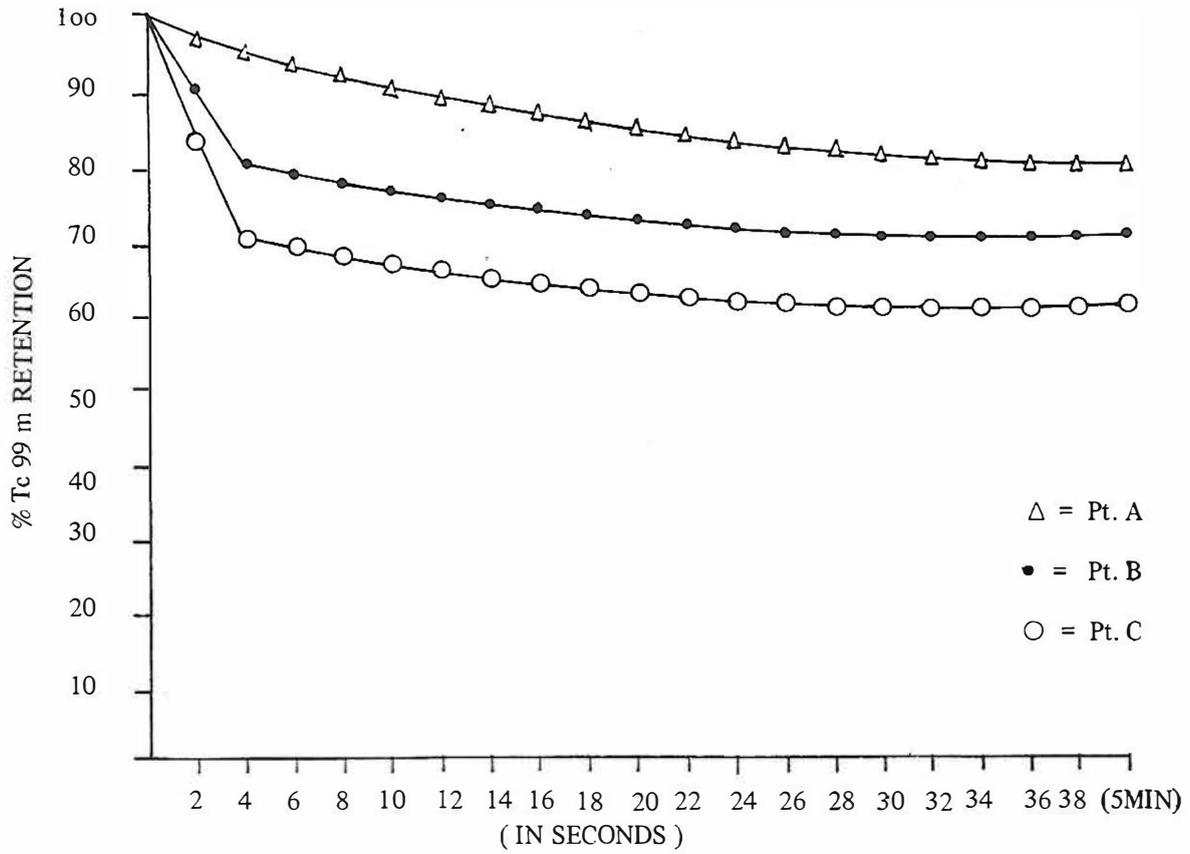


Fig: 6. Radionuclide Esophageal Emptying Study Pre-Balloon Dilatation.

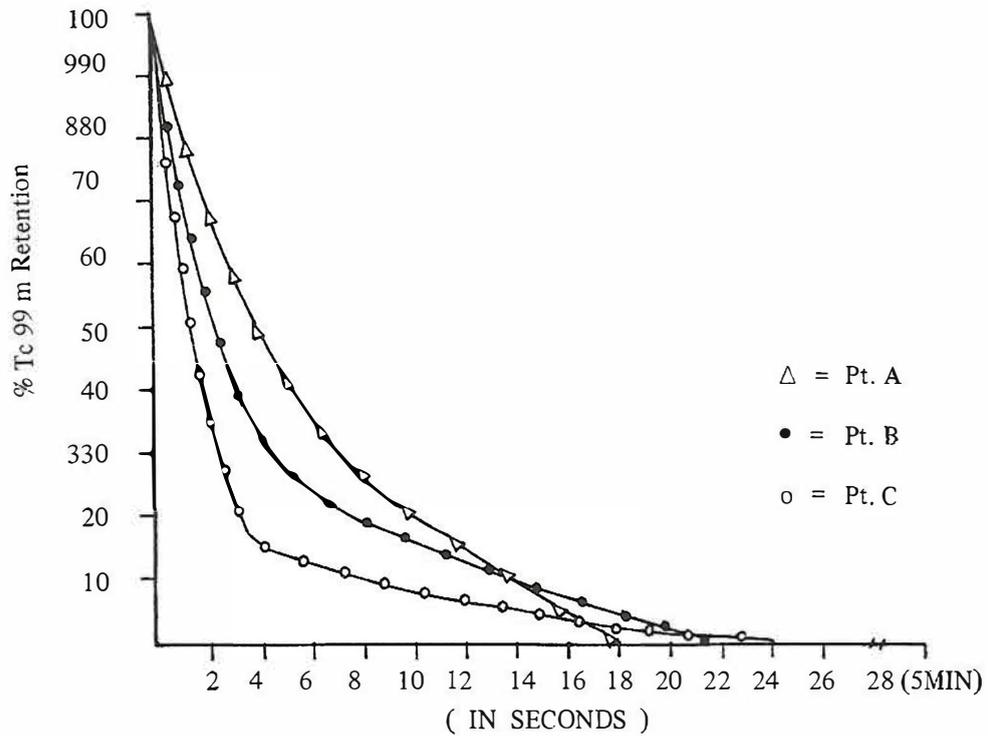


Fig:7, Time After Ingestion Radionuclide Esophageal Emptying Study 1 month post Balloon Dilatation

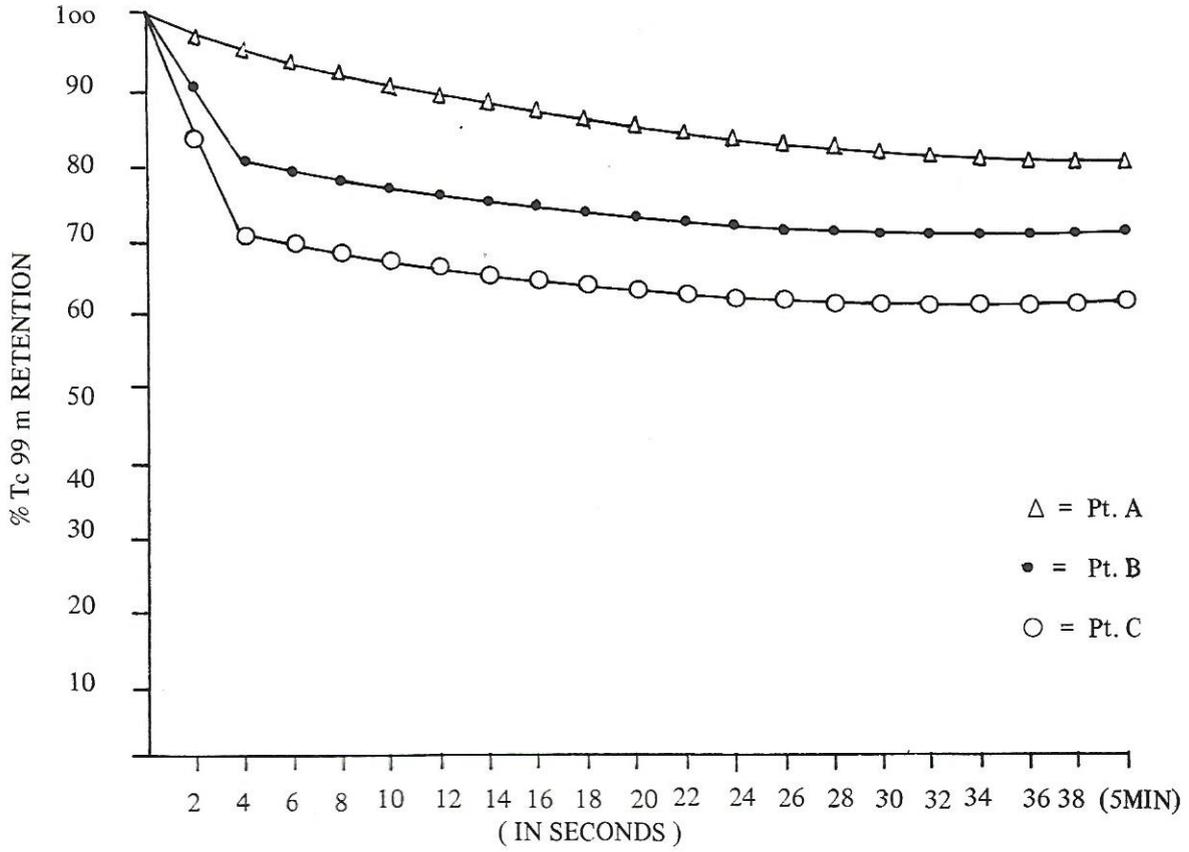


Fig: 6. Radionuclide Esophageal Emptying Study Pre-Balloon Dilatation.

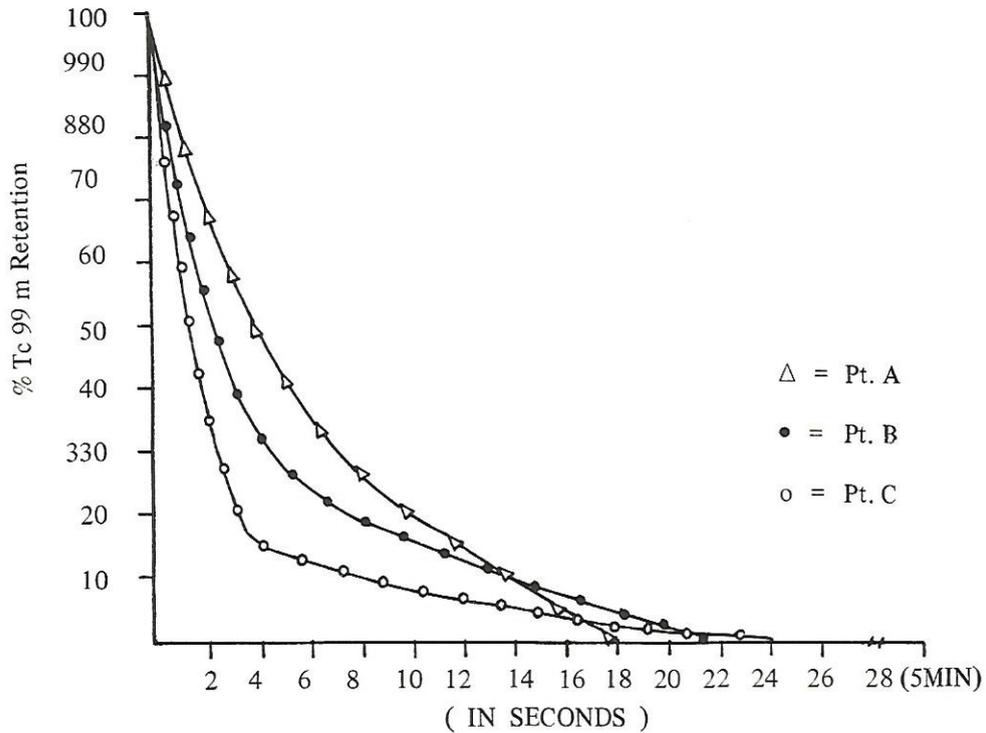


Fig:7, Time After Ingestion Radionuclide Esophageal Emptying Study 1 month post Balloon Dilatation

PATIENT D, a 45-year-old male presented with dysphagia, odynophagia and regurgitation.

He did not have symptoms of chronic bronchitis. Total duration of symptoms was two years with recent worsening.

Barium swallow was compatible with dilated esophagus, pooling and delayed emptying (Fig 8)

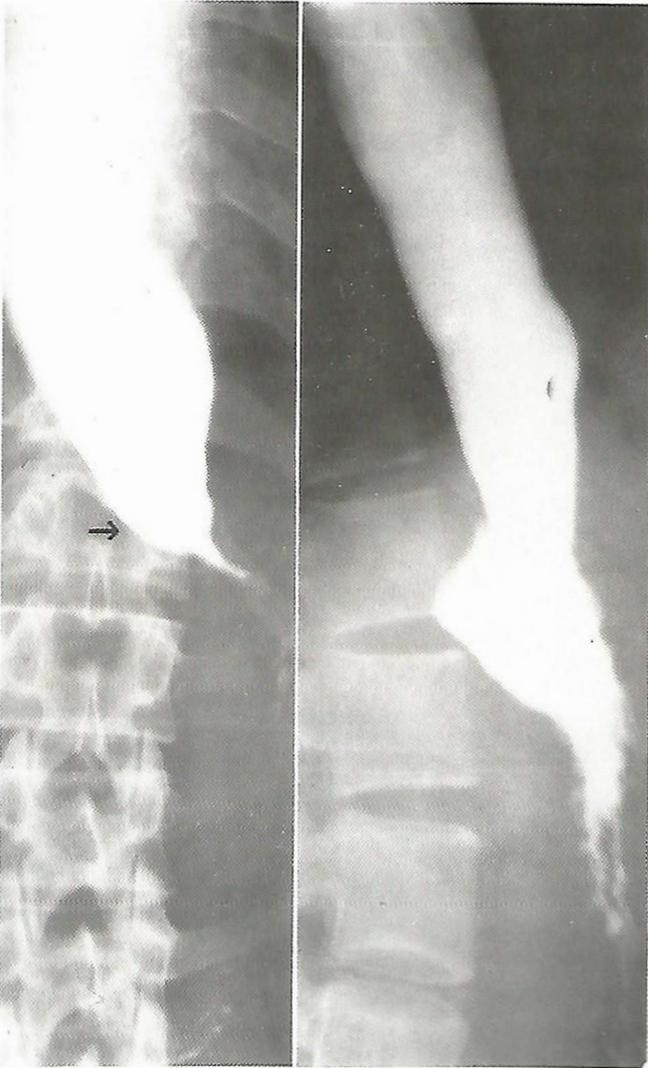


FIG: 8 Dilated esophagus with stasis of barium, narrow EGJ (Arrow). The LES opens wide spontaneously, (Arrow).

He opted to go through surgery and modified Heller myotomy with a modified Belsey fundoplication was performed at the thoracic surgery dept. at the Shaikh Zayed Hospital. After the initial recovery period, marked improvement in symptoms occurred. Barium swallow one month later showed rapid emptying and less retention in the

esophagus. Significant improvement was observed on clinical and radiologic basis.

PATIENT E was 65-year-old female evaluated in the out-patient department for symptoms of dysphagia and occasional choking spells for one and half year. She also had right upper abdominal pain after meals.

Examination revealed tenderness at Rt. upper quadrant of abdomen and Wt. loss of approximately 5 Kg. in 1 year.

Barium swallow showed moderately dilated esophagus and lack of progressive primary peristalsis in the body of esophagus. EGJ was narrow with delayed emptying (F9).



FIG: 9 Dilated esophagus with stasis of barium, narrow EGJ (Arrow). Absent gastric bubble.

Endoscopic examination showed moderately dilated esophagus with tight EGJ which did not show a stricture or tumor.

Ultrasound of upper abdomen revealed cholelithiasis.

Patient agreed to undergo surgical treatment which

included modified Heller myotomy and cholecystectomy.

Marked improvement in her symptoms of dysphagia occurred after recuperation from surgery. Barium swallow one month later showed rapid emptying and less retention in the esophagus. Significant improvement was seen on clinical and radiologic evaluation.

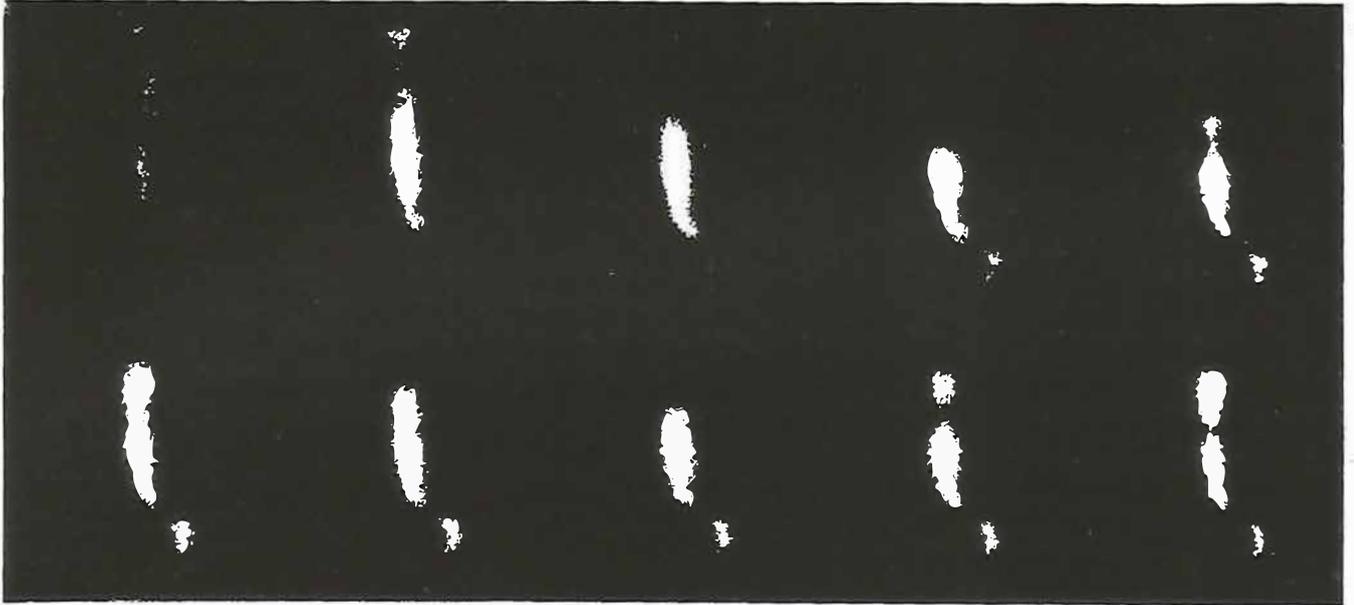


FIG: 10 Patient A; Tc 99 m radionuclide emptying study of esophagus before dilatation. Each count is taken at 2 second interval and last count at 5 minutes.



FIG: 11 Patient A; Post-Balloon dilatation Radionuclide study. Two second interval pictures show rapid emptying of esophagus.

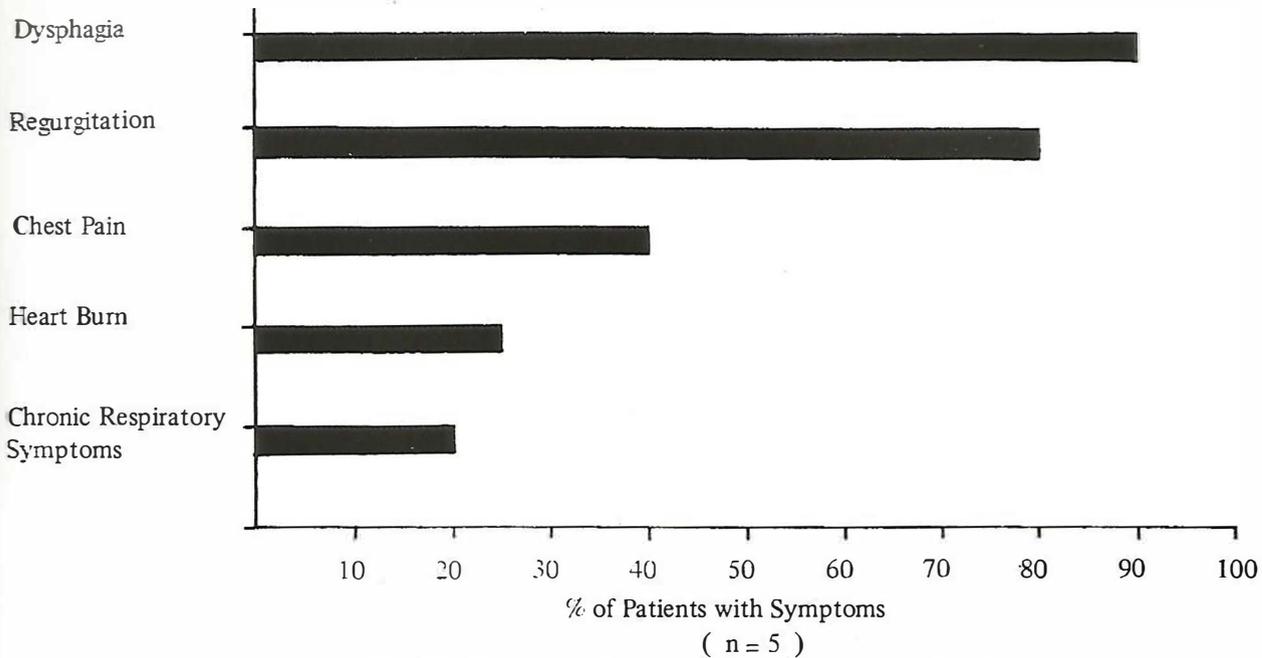


Fig. 12. Representative symptoms is frequency in 5 patients

DISCUSSION

Sir Thomas Willis (1) first reported a case of achalasia as early as 1974. It was not until early twentieth century that a description of dilated esophagus without a stricture appeared in the literature (2).

Three major histologic changes have been described in achalasia: (a) loss of ganglion cells within the myenteric plexus, (b) degeneration of vagus nerve, and (c) quantitative and qualitative changes in the dorsal motor nucleus of the vagus. Of these loss of ganglion cells has been best documented (3).

Our cases show a varied presentation, Patient A after thirty and patient B after twenty year of disease had markedly dilated esophagi with tortuosity and pseudo-diverticuli formation as a prominent radiologic feature. Whereas other three had symptoms for shorter duration and moderately dilated esophagi. These patients had frequent regurgitation and repeated upper respiratory tract infections. Chest pain experienced in the early stage may indicate a spastic component as transition from diffuse esophageal spasm to achalasia has been well documented. (4).

Clinically it is difficult to assess the severity of disease and result of therapy. However, the time required to finish a meal of same consistency before and after the therapy showing less dysphagia helps to determine the efficacy of therapy. Patient B learned to relieve his symptoms of

A better objective method for evaluating the efficacy of dilatation or surgery is scintigraphic technique of measuring esophageal emptying [7,8]. When applied in three cases it clearly demonstrated that esophageal emptying was significantly better after dilatation. [7,8] Nifedipine in patient A did not relieve dysphagia perhaps due to the long standing problem. The calcium channel blockers e.g. nifedipine and diltiazem have shown good results [9,10] but these are transient.

Forceful L.E.S. dilatation causing partial destruction has been successful in reducing esophageal stasis and several of its clinical manifestations.

The dysphagia is transiently relieved by static dilatation i.e. by Mallory, metal live dilators. Commonly used Dilators for forceful dilatation are the Starck dilator, Sippy pneumatic dilator, Mosher, Negus, Hurst-Tucker, Palmer, Brown-McHardy, Rider-Moeller and more recently Microvasive. Some of these are hydrostatic whereas, others are pneumatic.

Complication rate in most large series has been 2-3% of perforation. Out of 537 patients treated for three to four pneumatic dilatations, 13 patients had perforation (2.6%) in one series (11). Ten out of 13 healed completely on conservative treatment by stopping food, parenteral nutrition, and antibiotics for a week. Other complications include hydrothorax, persistent chest pain and rarely bleeding.

Cariomyotomy, first performed by Heller in 1913, has had several modifications. Original operation included

dysphagia by valsalva maneuver and moving his shoulders backward but it did not help consistently. This phenomenon, although unexplained has been noted earlier (5).

Barium swallow will reveal a dilated esophagus and delayed emptying and it is commonly the first test revealing achalasia. We estimated approximate emptying time of esophagus before and after dilatation and surgery which gave an estimated improvement. Others have measured barium column for such evaluation (6).

double, anterior and posterior, myotomy but it has mostly been replaced by a single, anterior cleavage of the tunica muscularis as proposed by De Bruine Groeneveldt in 1918 (11) and by Zaaijer in 1923 (11)

Ellis and Olsen limit the procedure to myotomy down to the mucosa from a few millimeters below the EGJ upto 5-8 cm above it. It is still debated whether or not an antireflux procedure should be added to the myotomy. Ellis feels it is not necessary, but he carefully avoids damaging the hiatal supporting structures and extending the myotomy more than a few millimeters on the gastric side (12).

However, dissatisfied by the high incidence of reflux many surgeons add antireflux operation to myotomy(11).

Our preliminary study showed that markedly tortuous, sigmoid esophagia are amenable to a non-surgical balloon dilatation with good clinical, radiologic and scintigraphic improvement. The results were comparable to surgery. However, longer follow up and additional cases will further determine the efficacy of both the modes of therapy.

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Acknowledgements

The author thanks the department of thoracic surgery, radiology at Federal post graduate medical institute and INMOL for their cooperation. Invaluable advice in editing by Prof. Tahir Shafi is also appreciated.