

# A Study of Laboratory profile of the patients undergoing upper GI endoscopy at tertiary health care centre

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## Abstract

**Background:** An endoscopy (looking inside) is used in medicine to look inside the body.<sup>1</sup> The endoscopy procedure uses an endoscope to examine the interior of a hollow organ or cavity of the body. **Aims and Objectives:** To Study Laboratory profile of the patients undergoing upper GI endoscopy at tertiary health care centre. **Methodology:** This was a cross-sectional study carried at tertiary health care centre referred for Upper GI Endoscopy during one year period from January 2017 to January 2018, in the one year period there were 86 patients referred for the Laboratory investigations were included into the study. All the patients were undergone all necessary laboratory tests like CBC, LFT, KFT and results were entered to excel sheet and analyzed by Excel software for windows 10. **Results:** In Our study we have seen that The average age of the patients was  $11.56 \pm 6.47$  Yrs. and range was 1-55 Yrs. (Min -Max) The most common provisional diagnosis were Hematemesis under investigation - 22.22%, followed by Mass per abdomen - in 15.87%, Foreign body in 13.49%, Vomiting under investigation in 11.11%, Fever under investigation in 10.32%, Ascitis under investigation in 8.73%, Cirrhosis with portal Hypertension in 5.56%, Upper GI obstruction in 4.76%, Dysphagia under investigation in 4.76%, Malena under investigation in 3.17%. Most of the patients were anemic i.e. 3-6 gm% were 34.88%, followed by Normal 9-12 gm% were 33.72%, 12-15 gm% were 18.60% and 6-9 gm% were 12.79%. Majority were having the TLC count in the normal range (4500-11000) were 59.80%, 22.55% were having leukocytosis and 17.65% were decreased count (<4500), Except PT (Prothrombin Time) -  $16.84 \pm 5.01$  and INR (International Normalized Ratio)  $1.66 \pm 5.01$  all other Parameters were within normal limits i.e. BT (Bleeding Time) was  $2.45 \pm 0.51$ , CT (Clotting Time) was  $4.66 \pm 0.68$ , SGPT was  $36.59 \pm 47.08$ , SGOT was  $52.24 \pm 48.97$ , Alk. Phosphatase was  $127.45 \pm 90.76$  Total Bilirubin  $-0.24 \pm 2.17$ . Direct Bilirubin Was -  $0.56 \pm 1.68$ , BUN was  $27.61 \pm 25.20$ , Sr. Creatinine was  $0.77 \pm 0.48$  **Conclusion:** The laboratory investigations are important in Upper GI endoscopy not only to prevent the complications of procedure but to support the diagnosis done by It.

**Key Word:** Upper GI endoscopy, LFT, KFT, CBC.

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## INTRODUCTION

An endoscopy (looking inside) is used in medicine to look inside the body.<sup>1</sup> The endoscopy procedure uses an endoscope to examine the interior of a hollow organ or cavity of the body. Unlike many other medical imaging techniques, endoscopes are inserted directly into the organ. There are many types of endoscopes. Depending on the site in the body and type of procedure an endoscopy may be performed either by a doctor or a surgeon. A patient may be fully conscious or anaesthetised during the procedure. Most often the term endoscopy is used to refer to an examination of the upper part of the gastrointestinal tract, known as

an esophagogastroduodenoscopy.<sup>2</sup> The self-illuminated endoscope was developed at Glasgow Royal Infirmary in Scotland (one of the first hospitals to have mains electricity) in 1894/5 by Dr John Macintyre as part of his specialization in investigation of the larynx.<sup>3</sup> Endoscopy may be used to investigate symptoms in the digestive system including nausea, vomiting, abdominal pain, difficulty swallowing, and gastrointestinal bleeding.<sup>4</sup> It is also used in diagnosis, most commonly by performing a biopsy to check for conditions such as anemia, bleeding, inflammation, and cancers of the digestive system.<sup>4</sup> The procedure may also be used for treatment such as cauterization of a bleeding vessel, widening a narrow esophagus, clipping off a polyp or removing a foreign object.<sup>4</sup> Specialty professional organizations which specialize in digestive problems advise that many patients with Barrett's esophagus are too frequently receiving endoscopies.<sup>5</sup> Such societies recommend that patients with Barrett's esophagus and no cancer symptoms after two biopsies receive biopsies as indicated and no more often than the recommended rate.<sup>6,7</sup>

## METHODOLOGY

This was a cross-sectional study carried at tertiary health care centre referred for Upper GI Endoscopy during one year period from January 2017 to January 2018, in the one year period there were 86 patients referred for the Laboratory investigations were included into the study. All the patients were undergone all necessary laboratory tests like CBC, LFT, KFT and results were entered to excel sheet and analyzed by Excel software for windows 10.

## RESULTS

**Table 1:** Distribution of the patients as per the age

Age	Mean $\pm$ SD
Average age (Yrs.)	11.56 $\pm$ 6.47
Range (Yrs.)	1-55

The average age of the patients was  $11.56 \pm 6.47$  Yrs. and range was 1-55 Yrs. (Min –Max)

**Table 2:** Distribution of the patients as per the Provisional diagnosis

Provisional diagnosis	No.	Percentage(%)
Hematemesis under investigation	19	22.22
Mass per abdomen	14	15.87
Foreign body	12	13.49
Vomiting under investigation	10	11.11
Fever under investigation	9	10.32
Ascitis under investigation	8	8.73
Cirrhosis with portal Hypertension	5	5.56
Upper GI obstruction	4	4.76
Dysphagia under investigation	4	4.76
Malena under investigation	3	3.17
Total	86	100.00

The most common provisional diagnosis were Hematemesis under investigation - 22.22%, followed by Mass per abdomen - in 15.87%, Foreign body in 13.49%, Vomiting under investigation in 11.11%, Fever under investigation in 10.32%, Ascitis under investigation in 8.73%, Cirrhosis with portal Hypertension in 5.56%, Upper GI obstruction in 4.76%, Dysphagia under investigation in 4.76%, Malena under investigation in 3.17%.

**Table 3:** Distribution of the patients as per the Hemoglobin concentration

Hb. Concentration	No.	Percentage(%)
3-6	30	34.88
6-9	11	12.79
9-12	29	33.72
12-15	16	18.60
<b>Total</b>	<b>86</b>	<b>100.00</b>

Most of the patients were anemic i.e. 3-6 gm% were 34.88%, followed by Normal 9-12 gm% were 33.72%, 12-15gm% were 18.60% and 6-9gm% were 12.79%.

**Table 4:** Distribution of the patients as per the TLC

TLC	No.	Percentage (%)
<4500	15	17.65
4500-11000	51	59.80
>11000	19	22.55
<b>Total</b>	<b>86</b>	<b>100.00</b>

Majority were having the TLC count in the normal range (4500-11000) were 59.80%, 22.55% were having leukocytosis and 17.65% were decreased count (<4500)

**Table 5:** Distribution of the patients as per the different laboratory parameters

Parameter	Mean $\pm$ SD
BT (Bleeding Time)	2.45 $\pm$ 0.51
CT (Clotting Time)	4.66 $\pm$ 0.68
PT (Prothrombin Time)	16.84 $\pm$ 5.01
INR (International Normalized Ratio)	1.66 $\pm$ 5.01
SGPT	36.59 $\pm$ 47.08
SGOT	52.24 $\pm$ 48.97
Alk. Phospatase	127.45 $\pm$ 90.76
Total Bilirubin	1.24 $\pm$ 2.17
Direct Bilirubin	0.56 $\pm$ 1.68
BUN	27.61 $\pm$ 25.20
Sr. Creatinine	0.77 $\pm$ 0.48

Except PT (Prothrombin Time) -  $16.84 \pm 5.01$  and INR (International Normalized Ratio)  $1.66 \pm 5.01$  all other Parameters were within normal limits i.e. BT (Bleeding Time) was  $2.45 \pm 0.51$ , CT (Clotting Time) was  $4.66 \pm 0.68$ , SGPT was  $36.59 \pm 47.08$ , SGOT was  $52.24 \pm 48.97$ , Alk. Phospatase was  $127.45 \pm 90.76$  Total Bilirubin -0.24  $\pm$  2.17, Direct Bilirubin Was -0.56 $\pm$ 1.68, BUN was  $27.61 \pm 25.20$ , Sr. Creatinine was  $0.77 \pm 0.48$

## DISCUSSION

Fiberoptic upper GI endoscopy has recently been recognized as the standard investigation of choice for patients with upper GI bleeding since it plays a pivotal role in the diagnosis and therapy of these patients, reducing mortality, rebleeding, requirement for transfusion, the need for surgery, hospital stay and health care costs <sup>9,10</sup>. Timely endoscopy plays a central role in the modern management of acute upper GI bleeding with the value of endoscopic therapy for bleeding from upper GI being well established<sup>11,12</sup>. Despite recent development of new therapeutic tools such as the proton pump inhibitors, endoscopic interventions and surgical approaches, the overall clinical outcome of patients with UGIB has not changed significantly during the past decade and mortality rate remains around 10% in most studies reported in the literature<sup>8,9</sup>. In Our study we have seen that The average age of the patients was  $11.56 \pm 6.47$  Yrs. and range was 1-55 Yrs. (Min –Max) The most common provisional diagnosis were Hematemesis under investigation - 22.22%, followed by Mass per abdomen - in 15.87%, Foreign body in 13.49%, Vomiting under investigation in 11.11%, Fever under investigation in 10.32%, Ascitis under investigation in 8.73%, Cirrhosis with portal Hypertension in 5.56%, Upper GI obstruction in 4.76%, Dysphagia under investigation in 4.76%, Malena under investigation in 3.17%. These findings are supported by our laboratory findings also as we have seen that Most of the patients were anemic i.e. 3-6 gm% were 34.88%, followed by Normal 9-12 gm% were 33.72%, 12-15gm% were 18.60% and 6-9gm% were 12.79%. Majority were having the TLC count in the normal range (4500-11000) were 59.80%, 22.55% were having leukocytosis and 17.65% were decreased count (<4500). Except PT (Prothrombin Time) -  $16.84 \pm 5.01$  and INR (International Normalized Ratio)  $1.66 \pm 5.01$  all other Parameters were within normal limits i.e. BT (Bleeding Time) was  $2.45 \pm 0.51$ , CT (Clotting Time) was  $4.66 \pm 0.68$ , SGPT was  $36.59 \pm 47.08$ , SGOT was  $52.24 \pm 48.97$ , Alk. Phospatase was  $127.45 \pm 90.76$  Total Bilirubin  $-0.24 \pm 2.17$ , Direct Bilirubin Was -  $0.56 \pm 1.68$ , BUN was  $27.61 \pm 25.20$ , Sr. Creatinine was  $0.77 \pm 0.48$ . These findings are similar to Deep Anand *et al* <sup>13</sup> they found The most common cause of UGIB was portal hypertension related (Esophageal and gastric varices) seen in 56.14% of patients, peptic ulcer-related bleed was seen in 14.91% patients, gastric erosions were responsible for bleed in 12.28% patients, Mallory–Weiss tear was seen in 8.77% cases, gastric malignancy accounted for

4.38% of cases, Dieulafoy's lesion was responsible for bleed in 1.75% cases and 1.75% had Duodenal polyp.

## CONCLUSION

The laboratory investigations are important in Upper GI endoscopy not only to prevent the complications of procedure but to support the diagnosis done by it.

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