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OSTEOPOROSIS IN CASES OF PEPTIC ULCER DISEASE

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Abstract:

Objective. *To determine the frequency of osteoporosis in patients with peptic ulcer disease.*

Methods; *It was a descriptive, cross sectional study that was conducted at different centers of Sargodha and Lahore from January 2019 to September 2019. In the present study the cases of age 18 years or more diagnosed with peptic ulcer disease on history and then confirmed on upper GI endoscopy were included. These cases were then assessed on DEXA scan and osteoporosis was labelled as yes where there was score of less than 2.5.*

Results; *In this study there were total 60 cases out of which 28 were males and 32 females. The mean age was 43.23±8.13 years. The mean duration of PUD was 3.2±0.31 years and mean T score was 1.2±0.8. Osteoporosis was seen in 4 (6.67%) of cases. Osteoporosis was more seen in females affecting 03 (9.38%) cases of their respective groups (p= 0.02). There was no significant difference in terms of duration of PUD with osteoporosis (p= 0.86).* ***Conclusion:*** *Osteoporosis is recently studied complication of peptic ulcer disease and is not very common, but still prevalent.*

Key words. *PUD, GI endoscopy, osteoporosis, DEXA*

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INTRODUCTION:

Epigastric pain is one of the most common presentations in the medical outpatients and emergencies. Peptic ulcer disease (PUD) is one of the causes leading to epigastric pain, along with gastro esophageal reflux. PUD is caused by the imbalance between the acid production and the natural protective mechanisms and lead to the injury in the lower part of the esophagus, stomach or the earlier part of the small intestine; collectively called as peptic area. This can interfere with various functions of the stomach and lead to difference complications and add to further morbidity.[1]

There are multiple factors ranging from life styles to different drugs that can influence over this and lead to this breach in mucosa. These include life style modification, increased beverages use, chocolates, smoking, alcohol etc. Various drugs are also culprit for this and NSAIDs being the most notorious ones. H pylori is the most studied bug that is found in the stomach and lead to injury of the mucosa. [2-3]

Osteoporosis is a defined as an entity that describe the reduced bone mineralization. Generalized aches and pains especially at bony areas and sometimes spontaneous fracture are the hallmark clinical presentations. It can be diagnosed on various techniques and diagnostic tests and basic them is to identify the bone marrow density. The risk factors for osteoporosis include female gender, DM, smoking and decreased intake of calcium etc. There are so many other factors that have been variably associated with this complication and not well studied and have shown variable association with this. Peptic ulcer disease, long term proton pump inhibitors are also one of them.[4-6] The data has revealed the incidence of osteoporosis from 9.35% to 20.5% in cases having peptic ulcer disease.[8]

OBJECTIVE:

To determine the frequency of osteoporosis in patients with peptic ulcer disease.

Study settings;
Multi centers of Sargodha and Lahore
Study duration;
January 2019 to September 2019
Study design;
Cross sectional study
Sampling technique;
Non-probability consecutive sampling

METHODOLOGY:

In the present study 60 cases of peptic ulcer disease were included after taking informed consent. Detailed socio demographic and clinical data was collected. Peptic ulcer disease was diagnosed by the symptoms of epigastric pain and burning sensation for at least more than 3 months. All adults of age 18 and more were included and those with co morbid like DM, HTN, smoking and diagnosed malignancy or chronic liver or renal disease were excluded. These were then cases undergone upper gastrointestinal endoscopy to confirm a peptic ulcer. And those with confirmed PUD were assessed by DEXA scan to labeled osteoporosis. A score of < 2.5 was labeled as yes. Data was entered and analyzed using SPPS version 21.0. Post stratification chi square test was applied and a value of < 0.05 was taken as significant.

RESULTS:

In this study there were total 60 cases out of which 28 were males and 32 females. The mean age was 43.23±8.13 years. The mean duration of PUD was 3.2±0.31 years and mean T score was 1.2±0.8 (table 1). Osteoporosis was seen in 4 (6.67%) of cases. Osteoporosis was more seen in females affecting 03 (9.38%) cases of their respective groups (p= 0.02). There was no significant difference in terms of duration of PUD with osteoporosis (p= 0.86) as in table 2.

DISCUSSION:

Decreased bone mineral density lead to decreased bone strength and lead to osteoporosis which is characterized by generalized aches and pains and can even lead to spontaneous fractures as well. Peptic ulcer disease is under extensive discussion in the recent times to look for its association with above-mentioned complication.

In the present study osteoporosis in cases of peptic ulcer disease was observed in 4 (6.67%) out of 60 cases. These results were also similar to the study done by Sawicki et al, where it was seen in about 5% of the cases and they also further looked for its association and it was observed that there is double the risk of osteoporosis in cases that have PUD as compared to those who haven't this.[6] Presence of co morbid conditions like HTN and DM also led to even higher rate of this complication in that study.
In this study, female gender revealed significantly higher rate of this complication in contrast to males where it affected 03 (9.38%) cases as compared to 1 (3.57%) male in their respective groups with significant difference of 0.02. This was also proved by the other studies as well by Cappuccio FP et al and Tsuda K et al, who also found female gender as higher prone to this complication. This finding can be described or explained by the factor that females are more susceptible due to various hormonal factors i.e. during menopause and at higher ages the risk of osteoporosis is already high in females as compared to males.[11-12]

Surprisingly few studies revealed higher number of such cases in male gender. Wu CH et al, in their

study revealed that male gender showed a better association with osteoporosis as compared to females in PUD but they did not find this association as significant.[7] The reason of this in male gender can be mainly of two factors; smoking and H Pylori infection. This was proved by a study done by Figura et a that revealed that males are more infected with H pylori infection that females and lead to extensive disease in the form of PUD which is now associated with osteoporosis.[9-10] Laszlo et al considered testosterone an other risk factor to affect gastric ulceration and hence osteoporosis in their study.[13]

CONCLUSION:

Osteoporosis is recently studied complication of peptic ulcer disease and is not very common, but still prevalent.

Table 01

	Mean	Range
Age	43.23±8.13	18-68 years
Duration of PUD	3.2±0.31	1-5 Years
T score	1.2±0.8	1-3

Table 02: Osteoporosis with respect to confounders

VARIABLES		Osteoporosis		Significance
		Yes	No	
Gender	**Male**	01 (3.57%)	27 (96.43%)	
	Female	03 (9.38%)	29 (90.62%)	p= 0.02
Duration of PUD	**< 2 years**	2 (6.25%)	30 (93.75%)	
	> 2 years	2 (7.15%)	26 (92.85%)	p= 0.86

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