**DEFINITIONS:**

-BASAL ZONE HYPERPLASIA

Basal zone more than 15% of the total thickness of epithelium is defined as basal zone hyperplasia. There can be lot of inter-observer variation. Closely packed cells with round to oval nuclei and basophilic cytoplasm are seen .The intra-nuclear distance is lesser than the nuclear width[].

-PAPILLARY HYPERPLASIA

 Papillary elongation can be present. The length of papilla is greater than 2/3 of the epithelial thickness or an increased papillary length which is >66% of the squamous epithelial thickness

-SPONGIOSIS

There might be dilated intracellular spaces due to ulceration and irritation of the esophageal mucosa[].

-INTRAEPITHELIAL EOSINOPHILS

It is predominantly seen in cases of GERD. It is useful in diagnosing poorly oriented biopsies. But it is not a very sensitive finding .Even normal asymptomatic individuals can also have few intra epithelial eosinophils[23].

-INTRAEPITHELIAL NEUTROPHILS

It indicates a very severe form of infection. It is generally seen in and around the areas of erosion and ulceration . Inflammatory exudates predominantly suggests mucosal destruction. Along with this there can be granulation tissue formation at the ulcer bed and also some atypical mesenchymal cells can be seen which can mimic malignancy[19].

 -INTRAEPITHELIAL LYMPHOCYTES

Normally in the esophageal mucosa we can see T lymphocytes. They are generally less than 10/10 HPF. But they can increase in case of inflammation. The lymphocytes have nuclear contours which are irregular. They also appear to be present in between squamous cells as if they are entrapped[22].

**CHANGES IN COLUMNAR COMPONENT:**

-GLANDS BENEATH CRYPT EPITHELIUM

In the distal portion of BE, compared to the proximal part, oxyntic type / acid secreting or mixed mucous and oxyntic type of glands are present. In most of the patients , especially in the proximal part of columnar lined esophagus, predominantly mucous glands are seen[14].

-MULTILAYERED EPITHELIUM

Multilayered epithelium is predominantly seen near the areas of neo-SCJ and also the areas which are overlying the esophageal glands and ducts . “Multilayered epithelium” , is thought by some authors to signify an initial stage in the advancement of CM of the esophagus. It is often found at the GEJ and is strongly related with GERD and the development of IM in subsequent biopsies. On morphology, this epithelium is composed of 4 to 8 layers of squamous cells which are basally located and are overlaid by superficially located CE, which are filled with acid mucin . Mucin properties and immuno-histochemical characteristics are same as columnar mucosa and gland duct epithelial cells, seen in BE and thus stating the fact that, multipotent cells within the ducts might give rise “ Multilayerd epithelium” . At present, there are no existing guidelines regarding reporting of the presence of multilayered epithelium because its association with surveillance remains unclear [25].

-CHANGES IN GASTRIC CARDIA :

Gastric cardia shows increased active inflammatory cells along with features of epithelial regeneration. Both GCs and pseudo GCs are present in this region. The foveolar epithelium may also be AB positive. So we should be careful while giving the diagnosis and not just rely on the special stain. *H. pylori* can also be seen in cardiac mucosa[14].

-SQUAMOUS ISLANDS:

Squamous epithelial islands surrounded by columnar epithelium.

-SUBSQUAMOUS BURIED EPITHELIUM:

Glandular Barrett’s tissue buried beneath the overlying squamous epithelium.

-SPLITTING OF MUSCULARIS MUCOSA:

Splitting/duplication of muscularis mucosa is not always present in BE . According to a study by Appleman *et al*, splitting of muscularis was seen in 95% of the cases but it was very patchy and focal .The presence of duplication of muscularis raises question whether the tissue is a submucosal tissue , presence of submucosal glands are helpful in this regard[21].

DISTINGUISHING BE FROM IM OF CARDIAC REGION:

Histologically , metaplastic columnar mucosa of the esophagus is alike cardiac mucosa and distinguishing the two can be very difficult. Soft points suggesting an esophageal origin include: esophageal glands/ducts, duplication of muscularis mucosa (in BE) , multilayered epithelium, hybrid glands (glands containing cardiac type cells and GCs) , squamous mucosa overlying crypts, squamous islands and sub-squamous buried epithelium. There is also absence of enterochromaffin cells and pancreatic metaplasia in Barrett’s epithelium.IM in BE has a villiform pattern which is absent in cardia[16] IM is not very common in the cardiac region in cases if BE[18].