



# SUMMARY

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Two popular foods commonly used by many lactating women were used in this study to show their effect on the histology and cytology of the secretory structure of the lactating mammary gland of albino rats. These are "Helba" oil extracts and "Moughat".

Sixty female albino rats were utilized in this study. Some of them were immature (fourty five days old), the rest were adult lactating female rats. Animals were fed a basal diet and were divided into six groups (each ten rats):

- 1- The control group.
- 2- The group which was fed "Helba" oil extracts.
- 3- The group which was fed "Moughat".
- 4- The group which was fed "Helba" oil extract and "Moughat" and served as a control to the fifth group.
- 5- The group which was fed "Moughat" and "Helba" oil extract and parlodel, (added to inhibit prolactin hormone).
- 6- The immature female rats which were fed "Helba" oil extracts and Moughat plus the basal diet.

Paraffin sections were prepared and were exposed to the following techniques: Heamatoxylin and Eosin method for the general morphology, periodic acid Schiff for demonstration of carbohydrates and Best's carmine method for demonstration of glycogen in the acinar cells of lactating mammary gland.

Cryostat sections were prepared for the demonstration of fat using Sudan III method.

Electron microscopic sections were prepared from the first three groups to show the effect of "Helba" oil extraction and "Moughat" on the fine structure of lactating mammary gland of rats.

The histological changes revealed that the glandular tissue was arranged in the form of large lobules with very thin connective tissue septa in between.

In the group which was fed "Helba" oil extracts the lobules were formed of widely distended acini and more distention occurred in the group which was fed "Moughat" and the group which was fed "Helba" oil extract and "Moughat".

The group in which parlodel was added, the lobules decreased in size, the connective tissue in between became thicker and some acini were collapsed. The group of immature female rats showed dense C.T. stroma.

Strong Sudan III staining was detected in the group which was fed "Helba" oil extract. Intense staining III was detected in the group which was fed Moughat, and the group which was fed "Helba" oil extract and "Moughat". Weak staining in the acini and strong staining in the adipose tissue inbetween in case of addition of parlodel.

Weak staining was seen in the group of immature female rats.

The group which was fed "Helba" oil extract showed a strong reaction of Best's carmine in the cells lining the acini. An intense reaction was detected in the group which was fed "Moughat", and the group which was fed "Helba" oil extract and "Moughat". A moderate reaction was shown in the group in which parlodel was added, a weak one in the group of immature female rats.

The P.A.S reaction was moderate in the basement membrane of the acini and C.T in between, in the group which was fed "Helba" oil extract and strong in the group which was fed "Moughat", and the group which was fed "Helba" oil extract and "Moughat". A moderate reaction was seen in the group to which parlodel was added to the food and weak in the C.T stroma forming the mammary gland of immature female rats.

The electron microscopic studies revealed that there was a marked increase in the activity of the acinar cells of the group which was fed "Moughat" more than that which was fed "Helba" oil extract. Both groups were more active than the control group which was fed the basal diet. This activity was evident in the prominent rough endoplasmic reticulum, the well developed Golgi apparatus in the supranuclear zone, the numerous mitochondria scattered in the cytoplasm, the presence of lysosomes, the numerous secretory granules which may be large enough to push aside the nucleus and the large fat droplets.

The possible explanation for these results were then in discussed.