INTRODUCTION
The lack of protective action of estrogens (E2) is known to cause serious metabolic disturbances, and oxidative stress is thought to be one of the suspected mechanisms. To estimate the impact of MCE Estrogen deficiency on the oxidative and antioxidative status in the liver of the ovariectomized rats.

MATERIALS and METHODS
Female rats were separated into four groups: (i) sham; (ii) ovariectomy (OV) rats; (iii) OV+E2 (250 µg/kg, im) and (iv) OV+MCE (2g/kg, orally). The histopathological assessment of the liver was performed using hematoxylin and eosin staining. Histological preparations were evaluated in the light microscope. The tissue levels of oxidative status markers such as MDA, GSH, SOD, CAT, GST and MPO levels were measured in liver.

RESULTS
Liver GSH and CAT levels were significantly increased in MCE or EST treated rat when compared to OV. (Fig 1). SOD and GST increasing were not significantly. The levels of MDA were significantly increased in OV group (Fig 2). EST or MCE treated rats had significant reductions in MDA levels in liver compared to sham. There was no big changing in MPO levels for each group (Fig 3). OV group, hepatic tissue showed extensive cytoplasmic lacking and activated Kupffer cells. Necrosis, hepatocyte apoptosis, nonparenchymal cell apoptosis, and macroscopic and microscopic peliosis were markedly reduced or minimized in MCE treated rats (Fig 4).

CONCLUSION
In summary, MCE treatment also induced antioxidant molecules/enzymes and inhibited lacking of estradiol-mediated increase in oxidative damage in liver tissues. Decreased oxidative stress, and increased cell regeneration and formation in MCE rats suggested a protective role of phytoestrogen against oxidative stress induced ovariectomized degeneration.

Figure 1. Liver GSH and CAT levels (* compare with sham, + compare with OV)

Figure 2. Liver SOD and GST levels (* compare with sham, + compare with OV)

Figure 3. Liver MDA and MPO levels (* compare with sham, + compare with OV)

Figure 4. H&E staining of Liver section a) Sham b) OV c) OV+EST d)OV+MCE