1. **Introduction**

Brucellosis is one of the most important and widespread re-emerging zoonotic disease in the world (OIE, WHO and FAO, 2010). The disease affects cattle, swine, sheep, goats, camels, equines, dogs. It may also infect other ruminants and marine mammals. Humans can become infected indirectly through contact with infected animals or by animal products consumption. Brucellosis in cattle is usually caused by biovars of *Brucella abortus.* It causes abortion, infertility, retention of placenta, stillbirth and calf loss in animals and huge economic losses to dairy farmers (Aiello, 1998; Singh *et al*., 2002).

 Brucellosis occurs worldwide but it is well controlled in most developed countries. It has been eradicated from Japan, Canada, some European countries, Australia, New Zealand and Israel (OIE, 2010).

In Indian subcontinent, Imperial Veterinary Research Institute (now Indian Imperial Veterinary Research Institute), Muketswar, first investigated contagious abortion in livestock associated with Brucellosis. In Bangladesh, brucellosis was first identified in cattle by Mia and Islam, (1967), in buffalo by Rahman *et al*., (1997) and human brucellosis was first reported by Rahman *et al*., (1983).

In Bangladesh, prevalence of brucellosis has been reported in cattle from different areas. For example, prevalence of brucellosis was determined in buffaloes, cattle, sheep and goats of five different districts viz. Bagerhat, Bogra, Gaibangha, Mymensingh and Sirajgonj (Rahman *et al*., 2011). The overall seroprevalence of brucellosis in Bangladesh was 2% in Mymensingh district, 16.66% in Tangail district, 11.52% in Pabna district, 2.92% in Faridpur district, 2% in Bogra district (Rahman and Rahman*,* 1982).

 Milk ring test, serological test like Rose Bengal Plate test (RBT), slow agglutination Test (SAT), Tube agglutination Test (TAT), mercaptoethanol test and/or ELISA (indirect, competitive, Avidin-Biotin) are commonly execute for recognition of Brucella infections in cattle (OIE, 2010). But there were limited research on hematological diagnosis of brucellosis in cattle. Considering the above facts the present work was intended to determine whether there are any significant diagnostic variations in the hematological parameters in *Brucella* positive cows.