INTRODUCTION

Brucellosis is an important zoonotic bacterial disease (Matyas and Fujikura, 1984; WHO, 1986) caused by different species of the genus Brucella, that are pathogenic for a wide variety of animals and human beings (Mathur, 1971). According to the Food and Agriculture Organization (FAO), the World Health Organization (WHO) and the World Organization of Animal Health (OIE), brucellosis is considered the most widespread zoonosis worldwide (Mustafa and Nicoletti, 1995).

Brucellosis has been an emerging disease since the discovery of B. melitensis as the cause of Malta fever in the spleen of a fatal human case on the island of Malta in 1886, and isolated by David Bruce one year later in 1887, and B. abortus was isolated from the aborted cattle by Bernard Baïsotate in 1897 (Nielsen and Duncan, 1990; Hatt-Jones, 2000). The first description of an outbreak of undulant fever caused by B. abortus involved college students who drank raw cows milk in the dormitory (Hugh-Jones , 2000).

Before 1945, India and Bangladesh were the same country and Bangladesh was belonged to Pakistan as East Pakistan till 1971. So historically, in this Indian
subcontinent, the credit of first investigation of contagious abortion in livestock associated with brucellosis, goes to the Imperial Veterinary Research Institute (now Indian Imperial Veterinary Research Institute), Muketswar, in northern India (Anonymous, 1918). In Bangladesh, brucellosis was first identified in cattle in 1967 by Mia and Islam (1967), in buffalo in 1997 by Rahman et al (1997), and human brucellosis was first reported in 1983 by Rahman et al (1983).

The importance of brucellosis is not known precisely, but it can have a considerable impact on human and animal health, as well as on socioeconomic impacts, especially in which rural income relies largely on livestock breeding and dairy products (Islam et al, 1983). Human brucellosis is caused by exposure to livestock and livestock products. Infections can result from direct contact with infected animals and can be transmitted to consumers through raw milk and milk products. Most cases occur in people employed in meat processing industry while sources include the domestic cattle, pig, sheep, goat and unpasteurized dairy products (Radostits, 2000). In animals, the brucellosis mainly affects reproduction and fertility, reduces the survival of newborns, and reduce milk yield. Mortality of adult animals is insignificant (Sewell and Brocklesby, 1990).

Prevalence of brucellosis has been reported in cattle from different parts of the world. Rahman et al (1983) reported higher prevalence of brucellosis in cows of better managed farms and estimated of human brucellosis as 12.8% in herders and agricultural workers and 21.6% in goat farmers. Rahman et al (2006) reported the seroprevalence of brucellosis in cattle as 2.4–18.4% while the herd-level seroprevalence in cattle as 62.5% in Bangladesh. Azimun (2007) reported the seroprevalence of brucellosis as 4.5% in cattle and 6% in human.

In previous studies, reports of brucellosis in Bangladesh both in animal and human were made using only B. abortus antigen but there were no report of B. abortus and B. melitensis specific prevalence in cattle in Bangladesh. Therefore, the present study was carried out to study the prevalence of B. abortus and B. melitensis infection in cattle attending Bangladesh Agricultural University Veterinary Clinic and its surrounding areas.

**MATERIALS AND METHODS**

The study was conducted for a period of 6 months from June 2008 to November 2008 in the Department of Medicine, Faculty of Veterinary Science, Bangladesh Agricultural University, Mymensingh.

**Serum samples**

A total of 200 serum samples were collected from BAU Veterinary Clinics and its surrounding areas. Among cattle sera samples, 143 samples were collected from BAU Veterinary Clinics, 42 samples were collected from BAU Dairy Farm and 15 samples were collected from Vabokolli. The study recorded some clinical, epidemiological and reproductive information. The questionnaire based data on age, gender, breed, area, client’s complaint, pregnancy status, grazing pattern, types of housing and breeding, number of animals in herds, disease history, reproductive problems such as abnormal uterine discharge, abortion or previous abortion, repeat breeding in cows and reproductive diseases in bulls were recorded.

At first the animal was controlled by the owner and the attendant and then the site of blood collection at jugular furrow was soaked with tincture of iodine. About 4–7ml of blood was collected from jugular vein of each cattle with the help of sterile disposable syringe and needle and the blood was poured in a sterile vacutainer test tube and was kept undisturbed wan a tray for at least 30min. at room temperature in a slightly inclined position to facilitate clotting and separation of serum. After this period, the clotted blood samples with sera are transferred to refrigerator at 4°C and kept overnight. Then the blood samples with sera were centrifuged at 3,000rpm for 15min. After centrifugation a clear sera were found. Later on, the sera were passed into the separate vial from each labeled vacutainer tube and the vial was marked with same number by permanent marker. The vial was stored in ice chamber at −20°C for use.