Abstract: Background: Brucellosis is a zoonotic disease that is endemic in Iran and diagnosis of brucellosis is based on clinical symptoms and positive laboratory results. Because specificity of the serology tests is not satisfactory. Appropriate and rapid diagnosis has a vital role in public health improvement. Various blood culture media have been introduced. Recent reports confirm higher isolation rate with rapid growth in a short time. The present study was conducted to determine the isolation rate of organism in BACTEC(9120) system from collected specimens of suspected brucellosis patients.

Materials and methods: In this diagnostic- descriptive study 81 brucellosis patients from 361 suspected brucellosis patients diagnosed on the basis of clinical manifestations and positive serologic tests (SAT, Coombs wright, 2ME) were included. Blood samples were provided and cultured either as direct inoculation into BACTEC system.

Results: Brucellosis was confirmed in 81 patients of 361 (%59 females and %41 males) studied cases on the basis of the serologic results. Brucella was isolated in 19 (23.4%) cases (after 2-5 days on culture). Biochemical tests revealed all these 19 cases as Brucella spp.

Conclusion: The BACTEC method can theoretically influence the release of Brucella from polymorphonuclear (PMN) and neutralize any antibiotic materials presented in the blood sample. Higher isolation rate when compared with prior studies indicates an appropriate sampling time and technique, rapid inoculation to the media. In summary, our isolation rate was obviously higher than those previously reported, although it is still very low when compared with expected rates. This could be partly explained by small sample size and blood culture type. Furthermore, low sensitivity of the culture may be due to clinical status of the disease in our patients.