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Open Access Letter to Editor

Crescent Journal of Medical and Biological Sciences
Vol. 2, No. 1, Winter 2015, 32-33

eISSN: 2148-9696

A Note on Brucellosis Vaccine

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Brucellosis is a global disease which annually endorses 500,000 human beings and also this infection present more and more among animals, such as cattle, sheep and goats are cases that the infection can be seen more than others. Fever, seating, malaise, losing weight, endocarditis, arthritis and spondylitis are symptoms and signs of disease in human (1,2). One of the main sources of infection for domestic animals and human can be suggested wild animals. Therefore, avoidance of this disease in animal reservoirs stands on top of methods for eradication of this infection in humans. Abortion is popular clinical sign of brucellosis which occur in contaminated live stocks, and also a reduction of milk production in infected cattle is the other symptoms. Hence, increase in milk production rate is accompanied with decrease disease respect (3).This subject matter clarity that abortion and reduction of milk production in cows are very similar to something that occurs in contaminated goats with Brucella bacteria (4). Annual estimation of economic harm due to brucellosis in live stocks is more than millions USD. We should pay heed to this point that it's just a bit harmful effect of this disease (5). Some protection programs set for this infection such as pasteurization and occupational exposure monitoring for omission of this disease in live stocks, sanitation, test and slaughter and vaccination are the main essential programs. Producers and butchers are educated according to sanitation programs due to a reduction of contamination. In addition, vaccination is one of controlling method that is also economical and has vast usage. Some essential features of vaccines must be such as: dose not interfere with serological tests, long term prevention come through via one dose vaccination, prevention of abortion, biological consistency and low price. Some functions of the immune system like activity and strength must be reinforced, particularly for the production of good and ideal vaccine against brucellosis. A dose of live attenuated vaccine has maximum efficacy against intracellular pathogens among other brucellosis vaccines (6). Of course, this fact must be mentioned that, responses estimation, which is due to vaccination and natural body reaction against bacteria is very hard and difficult. Hence, vaccine production procedure is very important and needs more attention. Intramuscular or subcutaneous form is most popular and illustrations methods for vaccination in live stocks. Although other methods like oral and intra conjunctivae are also common (7). Different kinds of vaccines are produced against brucellosis. S19 as a, Live smooth attenuated vaccine is proposed against brucellosis for adult cattle. This vaccine is an important choice in the area with high prevalent of brucellosis and has high apply (8). Another vaccine is rough strain Brucella abortus (RB51) that has high function for brucellosis control in cattle (9). In regions with low prevalent of brucellosis usage of this vaccine has more advantageous rather than S19 vaccine. Rev-1 vaccine is more common and is the best one which use for infection control in sheep and goats. Indeed some organizations like WHO suggested this vaccine as appropriate one (10). Early in the 20th century, heat-killed B. abortus starin 45/20 vaccine proposed against brucellosis (11). The sub unit vaccine because of some features like non-infectious and virulent recommended as worthwhile substitution than costume vaccines (12). Thus, proper vaccine is one that create the best immunity against every kind of Brucella. Today regardless all efforts of researchers done in this filed they could not achieve to one appropriate and effective vaccine for human, and this point should be mentioned that for extirpation of this infection production of some vaccine with the most protective effects and the less side-effect in necessitated.

Ethical issues

This research was approved by the Ethics Committee

Received: 11 Sep 2014, **Revised**: 7 Oct 2014, **Accepted:** 22 Dec 2014, **Available online:** 15 Jan 2014

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Conflict of interests

We declare that we have no conflict of interests.

Acknowledgments

I would like to represent my gratitude to Marzieh Nourollahzadeh for her advice as a translator of this note.

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Citation: Ebrahimpour S. **A Note On Brucellosis Vaccine**. Crescent J Med & Biol Sci 2015; 2(1): 32-3.