Ethnoveterinary Knowledge of Azarbaijanian People about the Terminology and Pathogenesis of the Animal Infectious Diseases: A Historical and Modern Review of Iranian Native Veterinary Medicine

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Abstract: This a unique report about the ethnoveterinary knowledge of Azarbaijanian people about the terminology and pathogenesis of the animal infectious diseases in folkloric literature and the part of literature which has prolonged among the villagers and conserved its own existence but its terms have not registered in their written forms. Collecting and reviewing these terms about the animal diseases put an apparent persistence on the long experience among native Azerbaijani people (Iran) in its veterinarian aspect. We tried our best to have a good clarification over these terms.

Key words: Ancient terminology, azerbaijan, ethnomedicine, Iran, traditional remedies, veterinary

INTRODUCTION

The relationship of animals and human beings are found in the rock-carvings in caves (Menges, 1968). It seems that each tribe of human beings has to make a kind of companionship with the animals in order to draw on animals in support of their needs and life styles. Meanwhile the Turkish people cannot be considered as an exception. The close association with animals before settling down and taking up agriculture made them proficient horsemen and warriors (Heyat, 2001). Several Turkish leaders in history provided precious input to veterinary medicine. Tamer Lane (13th century A.D.) who was a Turkish king, was a horse breeder, and at first made his efforts in pathology publishing on necropsies performed at his dead horses (Tadjbakhsh, 1993; Fa, 1979).

The appreciation of animals among these people has had a great impact on Turkish literature, especially on folkloric literature, the literature that deals with the life styles and the traditional behavior of people (Tadjbakhsh, 1993; Qarachorlu, 2003). The availability among the people of traditional terms in a great variety, going beyond the authority in comparison with their scientific equivalents, sounds whimsical. These terms based on clinical signs and pathological lesions are not passed down in written form. This paper tries its best to elucidate some of these valuable terms in use among Azerbaijani people in northwest Iran and still persisting with them.

MATERIALS AND METHODS

These words are a part of many words collected by the authors and some students of Veterinary Department of their University from different towns and villages in the vicinities of Azerbaijani provinces (Ardabil, East and West Azerbaijan) of Iran in four years (from 1999 to 2003). For this purpose, we prepared a questionnaire including information about the word or meaning of the word related to veterinary medicine. Then, students were sent to different regions of Azerbaijani provinces. After filling out the questionnaire by student and native vets, they were collected and put into alphabetical orders. In the next stage, the abovementioned collected materials were matched with available related literature for original meanings and spelling, etymological and veterinary meaning analysis.

RESULTS AND DISCUSSION

The authors had the opportunity to bring together over 400 terms that born reference to Azerbaijani native culture and could analyze some of them using available literature. Followings are some examples of these analyzed words.

Foot and mouth disease: Foot and Mouth Disease (FMD) or aphthous fever, is a well known animal disease among farmers of Iran. Based on French equivalent
(Fièvre aphteuse) it is called Tabeh barfakî in Farsi, but among natives of northwestern Iran, it is known as Dabbâgh (in Standard form) and as Tabagh (as a dialect variant). Perhaps this word (meaning scars) denotes the erosions resulted from this disease in the foot (hooves) and mouth cavity of the animals. This local term has been documented in classical Persian literature as Tabagh, denoting ulcerative lesions such as FMD and vesicular stomatitis in horse (Tadjbakhsh, 1993). According to historical documents, the Turkic people believed that the disease is transmitted through the wind and this can be an evidence of their awareness of the transmission route of the disease (Dinçer, 1967). In the villages of Azarbayjan of Iran, the farmers use the mixture of vinegar and green Avsil for healing the wounds of the animals including the mouth. It is mentioned in classical Turkish Avsil, Iran, the farmers use the mixture of vinegar and green Avsil to treat the wounds of animals.

Another word which may be pertinent to here is Avsil. This term is used for describing the salivation from the animals’ mouth. It is mentioned in classical Turkish book of Dada Gurgut, saying: "He slobbered like a cow with Avsil" (Deda-Gurgud, 1979). Because of the similarities of the symptoms, some authors have translated it as FMD, hence a synonym for Dabbâgh. But we think that it may not be possible confidently to assert that these two terms denote the same disease, because there are several diseases with similar symptoms e.g. blue tongue, Rinder-pest, Infectious Bovine Rhinotracheitis (IBR) etc. (Ergin, 2000).

Strangles: Strangles or equine distemper, due to Streptococcus equi subsp. equi, is a highly contagious disease that affects horses of all ages, but is most common in young animals. It is called now in Farsi as gûrm, derived from French gourme, but in Azerbaijan, region of Iran, kato is common. Another term, or a variant of the former is used as kata, which is used in general meaning of 'abscess', especially in the guttural and mandibular region in cattle and sheep (comparable with actinobacillus and actinomycosis). In the equine cases, it is used for stranglings, which is cognate with kata.

Glanders: Glanders is a contagious disease of solipeds. Burkholderia (Pseudomonas) mallei is its causative organism. It has acute or chronic forms, and characterized by pneumonia and nodules or ulcers in the respiratory tract and on the skin. The disease is highly fatal. There are several words for describing this disease, such as Sârijâ, qarâgâ, manghû (Dinçer, 1967), qilikna, atilkan (Kashgari, 2004), and qunâm (Astarabadi et al., 1995) (see below). It seems that all of these words denote the skin form of glanders, namely farcy.

In the region Varzeghân of Iranian Azarbayjan, we have recorded word manghû, used among the natives, meaning a refractory pneumonia of the horses. The same word, manghû, has been mentioned in encyclopedic dictionary of Persian language (Lughatnâmeh) by Dehkhodâ in the same meaning. He says it is more severe than saghû, likely he seems a kind of pneumonia in the horses. Dehkhodâ also points to the zoonotic nature of the disease. All above descriptions with such distinct clinical manifestations bring us only to the respiratory form of the glanders. Dinçer describes the history of discovering different forms of this disease and their relevancy (Dinçer, 1967).

The term sârijâ, derived from verb sârijâmây means to become yellow, is generally used for jaundice. But in the second and more specific meaning, it denotes the skin form of the glanders, i.e., farcy meaning the abscesses of skin containing yellowish and foul-smelling material and enlarged local lymph nodes. In Arabic meshmesheh, literally meaning apricot, is a common loanword in Farsi for glanders. But in the Persian literature the word serâjeh is used as an old equivalent for modern meshmesheh (Borhân). In some Turkish and Persian classical veterinary texts, this disease was mentioned as sârijâ. According to several Farsi classical veterinary texts, including:

It has been mentioned as khonân or khonîm (Tadjbakhsh, 1993).

Considering above, another term among native villagers of Azerbaijan of Iran, is used specifically for the horses, as atilgan. According to Divan, 'it is a swelling diseases of the horses, if the abscesses are discharged, it will convalesce, and in Farsi it is called khonîm' (Kashgari, 2004). As mentioned above, khonân or khonîm denote glanders (Tadjbakhsh, 1993), but the glanders is considered a refractory and incurable disease, hence atilgan is not a true equivalent for khonân. It seems denote a curable condition such as kato, stranglings or a form of lymphangitis. This mix-up of the disease-describing terms are acceptable due to the superficial and naive knowledge of the early veterinarians or farmers, because the differentiation between stranglings and other types of lymphangitides needs more precisely acquaintance with the pathology of the diseases.

Diseases associated with Clostridium species: Infectious necrotic hepatitis: An acute toxemia of sheep and cattle caused by the toxin of Clostridium novyi is elaborated in damaged liver tissue. The outbreaks are usually associated with fascioliasis. The native term for this disease is as Jiyar-azma, formed from jiyar liver and azma squelicing or lysis, referring to changed consistency of the liver in this disease.

Enteric disease associated with clostridium perfringens: Clostridium perfringens resides in the intestinal tract of...
domestic animals and can produce a number of toxins that result in enteric and histotoxic disease. *Clostridium perfringens* isolates are classified into one of five types, types A-E, depending on their ability to produce the four major lethal toxins: the alpha, beta, epsilon, and iota toxins. The activities of these major lethal toxins are the basis of the pathogenesis of the classical enterotoxemias.

Enterotoxemias associated with different types of *Clostridium perfringens* are well-known by native farmers of Azarbayjan. The general term for enterotoxemia is *daliqa*, literally meaning 'madness, a psychotic disease', referring to the clinical manifestations of neurological complications. As this disease is common in different parts of Iranian Azarbayjan, Enterotoxemias associated with different types of *Clostridium perfringens* are named by different terms. The disease associated with *Clostridium perfringens* type B or Lamb dysentery is called *Charatma* (a corruption of *Charlatma*) literally meaning 'disgusting', referring to foul and distasteful appearance of the animal with diarrhea. Another term for this type of disease is *Su-almâ or Uravi-su-almâ* which mentioned above as a general term describing the symptoms of the Enterotoxemia, is also used in a general meaning of 'accumulation of water in the body cavities', i.e. hydropericarditis.

As mentioned above, the disease associated with *Clostridium perfringens* type D (pulpy kidney, overeating disease) is called *daliqa* (madness) which is associated with neurological symptoms. Here the term *Jin-nanma* (literally: to be furious or angry) may be mentioned, as a general term describing a disease with neurological signs. The term *Su-almâ* which mentioned above as a general term describing the symptoms of the Enterotoxemia, is also used in a general meaning of 'accumulation of water in the body cavities', i.e. ascites.

Other clostridial infections: Another clostridial disease is infectious myositis associated with *Clostridium chauvoei*, which is called blackleg (in English). True blackleg is common only in cattle but infection with this organism initiated by trauma occurs occasionally in other animals.

In Azerbaijan of Iran the term yâni-ghârâ, formed from yân meaning flank or leg (gluteal region) and ghârâ meaning black. In Farsi, the translation of French equivalent is used as charbon symptomatique, shârbon 'âlamâfî (literally: symptomatic anthrax). The gross pathology of both diseases is alike, but the differentiated diagnosis should be made.

**Anthrax:** Anthrax is a peracute disease associated with *Bacillus anthracis* occurs in ruminants and horses and is characterized by fever, septicemia and sudden death. In modern Farsi, it is called *siyâh-zakham* (literally: black wound), which according to Tajbakhsh is used recently, because the old equivalents of this disease in Persian literature are *gandeh-zakham* and *nâr-e-fârsî* etc. (Tajbakhsh, 1993). The usual term in Farsi which is common between veterinarians is Shârbon, taken from its French equivalent as 'charbon'.

In Azarbayjan region of Iran, the term ghân-ghârâ is common, formed from ghân meaning blood and ghârâ meaning black and dark, referring to the dark-colored discharges of blood from the nostrils, mouth, anus, and vulva after death of animals. In recent years some young veterinarian graduates mix up ghân-ghârâ with gangrene, that these words have not relationships with each other. Ghârâ-yâniq (literally: black burn) is another synonym for ghân-ghârâ.

There are some terms in Ottoman Turkish such as dâlâqî (literally: spleen) and dâlâqî devermâsi (abnormal enlargement of spleen), which have Azari equivalents like dâlâqî oltmaq (literally: any involvement of spleen, i.e. splenopathy). We believe that these words generally describe an overall symptom of some specific diseases, so we consider them as splenomegaly. Compare also these words with German Milzbrand, fire of spleen.

The terms ghârâ-yârâ (literally: black wound), ghârâ-chibâhî (literally: black abcess), ghârâ-bukhjâ (literally: black package), ghârâ-ghârâchilikî (literally: black blisters) perhaps denote the cutaneous anthrax (Dinçer, 1967). For this one may compare them with literally meanings of English anthrax and French charbon, both point to the black color of the cutaneous lesions of the disease.

The use of yâni-ghârâ (literally: black leg) for anthrax is a misnomer, due to the similarity of symptoms of both blackleg and peracute form of anthrax. See Blackleg. Tàlànğu is another term meaning 'peracute lethal poison' attributed to anthrax. According to Smith, perhaps it is agreed with belief of Aristotle, who attributed the sudden death of animals (probably due to this disease) to poison plants (Dinçer, 1967).

**Rabies:** The first mention of rabies in Turkish texts (Turkish Agglutinates) can be found in the encyclopedia of Mahmoud Kâshghari (1072 AD) entitled Divan-u Lugat-it Türk (Kashgari, 2004). The term gutuz means 'mad cow' as the term gutuz-it means rabid dog or mad cow in this dictionary (Kashgari, 2004). In other Turkish dictionaries such as Sanglîkh 18th century AD (Astarabadi et al., 1995) and Süleyman Afandi (16th century AD) the term gutuz is available too (Astarabadi et al., 1995; Bukhari, 1920). Nowadays, the term gutuz that has been changed into gutuz in Azeri Turkish and also is available in Ottoman Turkish (kütüz) (Behzadi, 1996; Olgun, 1997).

In Azerbaijan (Iran), the term gutuz is also used among the villagers. Among these people there is an expression which is considerable in the view of veterinary medicine. The sense of this expression, used for cunning people is as follows: Gürdiyiyî gutuz olub that is 'He has eaten the wolf and has become rabid!' (Farahmand, 2003). This
shows that the people of Azerbaijan were aware of a reservoir for this disease in wolves. (The role of wolf in transferring of the disease is noticeable in Azerbaijan).

Diseases associated with mycoplasma: Contagious agalactia caused by Mycoplasma agalactiae in sheep is a triad of mastitis, arthritis and ocular disease (a gray color changing in eyes). Sometimes is also accompanied with respiratory disease, abortion and diarrhea. The local term ye0l-bâ, formed from yeI a swelling or inflammation (in the joints), and boz to be gray (of ocular conjunctivitis), denotes explicitly the main associated symptoms of the condition.

Dermatological diseases: These diseases because of their exposed nature are the most known ones to the villagers, nevertheless because the symptoms of different dermatological diseases are similar; the distinction for a native viewer will be so weak. Consequently the native terms describing the skin and coat diseases of the animals are general and nonspecific.

Considering above, for example the term damiro is used for describing different dermatological conditions. In some regions of Azerbaijan, it is an equivalent for exema, and somewhere it is used in the meaning of wart and dermatitis. In dictionary Sanglakh, it has been mentioned as damrako, damiraki and also damiro, meaning scabies and skin itching. Some resources relate it with verb root temra and noun tamir (iron). It is characterized by desquamation (shedding of the epidermis), herpetiform lesions, pustules and ringworm infections (Clauson, 1972). The etymology perhaps relates to the rust-like appearance of the skin lesions. These words, however, are used by the native peoples for the meanings of scabies, psoriasis, wart, etc.

The term shirna denotes the scabies, alopecia and dermatitis. Bodjâ is also common for describing the parasitological and fungal dermatities.

The word gotur, in Farsi called as gar, is the well-known term, for describing the any form of dermatitis or scabies with alopecia. It may be attributed to the both parasitological and fungal lesions (Astarabadi et al., 1995).

Tetanus: Tetanus is a muscle spasm from action of the exotoxin produced by Clostridium tetani, characterized by generalized muscular rigidity and spasms, hyperesthesia, prolapase of third eyelid, trismus, convulsions, respiratory arrest, and death. All species are susceptible, and usually a history of a wound or other tissue trauma present.

A native Azerbaijanian term for tetanus is goş-qulâq (literally: lifting the ears) denotes to an anxious and alert expression contributed to by an erect carriage of the ears. Another interesting term for this condition is qeysar or qâysâr. The people of Varzqan consider it a type of frost-bite or cold. This mixing-up frost-bite and tetanus has a far historical background. Almost classical books mentioned tetanus as a frost-bite, namely Aristotle, who proposes holding animals ward as a remedy. Also Hippocrates describes the etiology of the disease as follows:

to’ de’ ψυχρόν, σπασμοὺς, τετάνους, μελασμοὺς, ξίριγα πυρετόδεα

Cold produces convulsions, tetanus, blackening, feverish rigors. (Jones, 1957).

In some classical veterinary books (Fars-nâmeh or the book of Horse), tetanus is also considered as body rigidity due to cold. The proposed remedies include scaring and phlebotomy (Dinçer, 1967). The native term ghâysâr, affected by Turkish word Ghâysâq, meaning stiff, dried and hard surface of the earth, is derived from Arabic qaşar cervicalgia, a stiffness or spasm of the neck, tetanus. This term is common among native farmers of Azerbaijan region and also has been mentioned in classical Hippological and Hippiatric texts, as we have already discussed it in detail.

Cowpox: Cowpox virus is a member of the genus Orthopoxvirus in the family poxviridae. Endemic infection of certain rodents occurs in Europe and East Asia. Cattle are a rare and incidental host. Spread in cattle is by contact. Cowpox is characterized by typical pox lesions on the teats and udder. Erythema, papules with a zone of hyperemia around the base, vesiculation, pustular stage and scab are seen.

The native term Chichak, literally blossoms, is used to pox, and in some sources exclusively for smallpox (Clauson, 1972). But it is used for animal pox or cowpox among villagers of Azerbaijan region. The other term Sappaâj meaning dispersed nodules on the skin, is also used for cowpox or a general term for describing the pox disease.

Hoof disorders: The native term bichilghân, derived from verbal root bich- meaning ‘to cut’, describes the fissure of horse hooves and foot rot. It has been also mentioned in Divan. This term is cognate with word bichâkh meaning ‘a knife’ (Clauson, 1972). The folklore remedy of this condition is through using a mixture of bitumen and some other material (Dinçer, 1967).

Another terms, including tâshirqâ, a general term for ‘foot rot’, and sîchânjîq meaning ‘foot rot in ruminants’, are used commonly.

Ophthamlic infections: The term boz (literally: gray) denotes the any forms of eye bulb inflammations. Sometimes these inflammations are called as ây (literally: white in color) (Dinçer, 1967). The term goz-bozârmâq denotes the ophthalmitis.
Malignant catarrhal fever: Malignant Catarrhal Fever (MCE) is characterized by ocular (and nasal) discharge with variable degrees of edema of the eyelids, accompanied with fever, anorexia and agalactia. Native villagers use dowshanjiq for describing the condition. For remedy, they use periocular and nasal scarring.

Actinomycosis: Actinomycosis or actinobacillosis (also called as: lumpy jaw), caused by Actinomyces bovis, initially is painless, hard, immovable bony swelling on mandible or maxilla. Eventually discharge small amounts of pus through one or more openings in skin.

The native terms describing the lumpy jaw are diyun, literally meaning a knot, and the general term of fer or fir meaning abscess or swelling. In some regions of Azerbaijan it is called as compound surati-fir 'with swelled face'. The term fir meaning face-swelling, may denote actinomycosis. In classical veterinary texts, the Arabic word of khanzir was used for actinomycosis.

Rinderpest: In Persian language it is called gawmiri, relating to the higher mortality of the cattle. A similar counterpart as mal-girun is used among Azarbaijanian people. The epizootics occurred twice during 1904 and 1931 among the cattle of Azarbaijan region with a high mortality.

Another old word is yar which is etymologically of Mongolian origin. It has been also found in the early Turkic inscriptions in Orkhun Valley as an epidemic disease for men and animals. Clauson describes this term basically as 'weather so severe that it kills livestock', with extended meanings for other things which cause losses of livestock, and even the death of human beings, like lack of grazing and epizootic (or epidemic) disease. A Second Period loanword in Mongolian as cut 'famine; epizootic or epidemic disease'; in summary yar has been used first for humans, second for animals, and third for death by the sword.

Respiratory disease: For pneumonia in horses, saqo, sako or sako is commonly used. According to Clauson, sokcu or soku is derived from stem sok- meaning deep breathing or inspirations. It is now used in Eastern Turkic languages as sokku or sokki. There is also a term as saka, akin to saqwa in Ottoman Turkish meaning glands, see manko.

Pneumonia is called as sataljam which is termed as zit-ul-riyeh in Persian and Arabic. Manqo seems to be a more severe form of saqo, mentioned above. It has been described as a contagious disease for horses, which is zoonotic for man. It may be also related to the respiratory form of glanders, see sarija. We also consider it as equine pandemic influenza, which is akin to the disease have been occured in swine and avian subjects in our era.

Mastitis: The inflammation of the udders may be caused by different agents. The native terminology or describing this condition comprises Ghara-yelin and Yelini-shishma. Ghara-yelin (or a dialect variant as Ghara-yelin) denotes mastitis and also gangrenous arthritis. Yelin means udder, and Ghara in addition to meaning 'black', in the prefix usage means 'large or swelled'.

Yelini-shishmak, composed of Yelin meaning udder and Shishmak meaning to be inflated, denotes 1) inflated udder of perinatal period, and 2) mastitis.

CONCLUSION

Such terms in Turkish traditional texts and the native culture of Turk regions are widespread. Study of these terminological questions makes one curious about the working of the human mind. It can provide a deep and respectful view on the different cultures of the world that are the common heritage of mankind. It is an obligation of man to take care of this heritage.

REFERENCES


Menges, K.H., 1968. The Turkish Languages and People, an Introduction to Turkish Studies. Otto Harrasowitz, Wiesbaden.

Tadjbakhsh, H., 1993. History of Veterinary Medicine and Medicine of Iran. Publication of Tehran University and Veterinary Organization of Iran, Tehran Persian.)