

ABUSES OF OXYTOCIN IN COWS AND BUFFALOES

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Oxytocin, a polypeptide hormone, is mainly synthesized in the supraoptic and paraventricular nuclei of the hypothalamus. It is stored in the posterior pituitary gland of the body from where it is released in the blood circulation in response to some neuro-endocrine reflex. Recent studies have revealed that small amount of oxytocin is also secreted by the corpus luteum of the ovary in the sheep, cow and woman. Normally its function are, to stimulate myometrial contractions and to expel foetus out from the uterus at the time of parturition. It also induces contractions in the femal genital tract during the act of sexual performance so that the entry of spermatozoa into the uterus to reach the site of fertilization is accelerated. Another very important function of this hormone is the contractions of the myoepithelial cells of the alveoli of mammary glands to eject milk into the teats. The ovarian oxytocin acts on the endometrium to induce release of prostaglandin F_{2α}, which in turn causes lysis of the corpus luteum on the ovary. An enzyme, oxytokinase, metabolizes oxytocin into inactive form in the body.

The drug is of considerable importance in the country because of its therapeutic values in the human. In cows and buffaloes, it is mostly used for the expulsion of foetus as well as foetal membranes in cases of uterine inertia. The oxytocin is also successfully used in animals after the correction of postpartum uterine prolapse to prevent its reoccurrence by closing the cervix. Some veterinarians prefer its use to induce milking in cows and buffaloes which have some unknown postparturient problem or to evacuate udder in cases of mastitis.

The oxytocin was introduced to gawalas or milkmen by paraveterinary staff and quacks in early sixties for milking of their normal animals. Being quite cheap and effective, this drug has become very popular among gawalas, milkmen or even farmers and livestock owners. But his hormone has produced many hazards in the reproductive life of the female animals. The following harmful effects of the indiscriminate use of the hormone have been observed while working in the field of animal reproduction during the last thirty years.

1). Young calves play an important role in the success of livestock farming. Firstly, these calves can be used to replace old and uneconomical breeding animals. Secondly, the male calves when reach adult age, are the

main source of good quality beef, hides and bones in the country. The young calves which are usually used for the letdown of milk are no longer required because they have almost completely been replaced by this drug. Therefore, gawalas do not look after their calves properly and most of them die at a very early age. This is causing huge economic loss to the nation in terms of beef, hides and bones, and replacement breeding stock.

2). No deleterious effects on human health through the use of milk from animals given oxytocin have been reported so far. However, its administration produces injurious effects on the sexual health of female animals, the animals fails to conceive and thus becomes infertile.

3). In cyclic cows and buffaloes, the regular use of oxytocin causes lysis of corpus luteum before time and induces premature ovulation. Thus, the ovum is not capable of fertilization due to its immaturity, resulting in infertility.

4). The regular use of oxytocin in milking animal causes repeated and continuous contractions of uterine muscles which makes them very thin. The fertilized ovum (zygote) does not get implanted in the uterus on account of continuous uterine contractions.

5). Due to the effects of oxytocin, the uterine glands are over stimulated in the beginning and produce excessive secretions. Later, degenerative changes appear in these glands. Thus, the uterine milk, which is a nutritive fluid for developing embryo in the uterine lumen prior to its implantation, may not be available in sufficient amounts resulting in early embryonic death and reproductive failure.

6). In milking animals if the administration of oxytocin has been started about 2 to 3 months after conception, the foetal fluid decreases in quantity day by day, the growth of the foetus ceases and results in foetal death and mummification.

7). Abortion in the pregnant animals may also take place.

8). The animal becomes debilitated, infertile, sterile and ultimately has to be disposed off for slaughtering.

It is worth to be mentioned here that millions of cows and buffaloes which are brought to cattle colonies of Peshawar, Karachi, Lahore, Faisalabad, Rawalpindi and other big town from villages of Punjab, were being injected with oxytocin, became sterile and never

conceived. This big loss of breedable and fertile animals is being increased day by day as the use of oxytocin has now spread to villages also. Unfortunately, the authorities responsible for increasing animals population to meet the ever increasing demand of animal proteins in the country have never looked into this problem. Therefore, it is suggested that the concerned authorities in the Government should adopt all possible measures to save the cow and buffalo population in the country in the best interest of the nation. In this regard, the following steps would be very helpful:

1). The use of oxytocin to induce milking should be banned in the country immediately.

2). The open sale of oxytocin on common shops in town and villages in the country should be strictly prohibited.

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