

SHORT COMMUNICATION

A QUESTIONNAIRE SURVEY OF OVINE DYSTOCIA MANAGEMENT IN THE UNITED KINGDOM

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Abstract

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A questionnaire survey of farm experience, undertaken during lambing time in the year 2000 by 95 second-year veterinary undergraduate students, highlighted numerous areas of concern. On those farms attended, more than one third of shepherds (32; 34%) neither washed their hands in an approved scrub nor used arm-length disposable plastic gloves before attempted correction of a lambing problem. Sheep received a prophylactic antibiotic injection after an assisted lambing on just 33 farms (35%), while the majority of farmers (62 farms; 65%) treated only those ewes that became sick some days after assisted lambing. Veterinary assistance was requested to only 22 of 359 (6.1%) dystocia cases from a sample population of 79 610 lowground ewes. When lambs could not be delivered by farm staff the ewes were either humanely destroyed (65) or injected with antibiotics but subsequently died because of ensuing toxæmia from the emphysematous lambs in utero (272).

Keywords: *animal welfare, dystocia, sheep*

Introduction

There has been a disturbing trend in the United Kingdom over the past 10 years towards fewer veterinary visits for ovine obstetrical problems. In a recent study asking why Welsh sheep farmers did not request veterinary assistance for dystocia cases (Evans & Scott 1999), 33% of respondents quoted excessive professional fees, while 31% of farmers considered themselves to be as competent as their veterinary surgeon in such matters. With fewer visits to sheep farms during lambing time, it proves very difficult for veterinary practitioners to review hygiene standards and advise accordingly. To this author's knowledge, there have been no large-scale surveys of the basic hygiene practices at lambing time which are fundamental to improving the health and welfare of the ewe and her lambs.

Ewe deaths around lambing time in lowground flocks are quoted as 5% (MLC 1997), with an estimated 70% of these caused by dystocia (Hay 1991). A dystocia rate of 4.8% was reported in a survey of 89 000 ewes on Welsh sheep farms (Evans & Scott 1999) with a mortality rate of 79.3% for farmer-assisted deliveries.

There are few published large-scale studies of veterinary attendance at dystocia cases in the United Kingdom. Data collected by 36 veterinary practices (Anon 2000) revealed annual attendance at approximately 800 cases of dystocia, caesarean operation, ringwomb, uterine torsion, and uterine rupture per annum over the four-year period 1997–2000. No population data were provided but, on average, farm animal veterinary practices serve about 50 000 sheep (there are 500 sheep practices and the national flock is 25 million). The above statistics suggest about one veterinary visit per 2500 sheep (since they indicate 800 visits to a total of 1.8 million sheep [36 practices each with an assumed average of 50 000 sheep]). Although

there may be some errors in this calculation, the data indicate that there is little veterinary involvement on the majority of sheep farms during the lambing period. The major aims of this survey were to collect information on shepherds' approaches to dystocia management throughout the lambing period and the extent of veterinary involvement in dystocia cases on sheep farms in the UK.

Materials and methods

All 95 second-year veterinary undergraduate students at the Royal (Dick) School of Veterinary Studies in Edinburgh were asked to detail the approach to assisted lambings, the fate of these ewes, their management after such assistance, and all veterinary interventions on those farms where they undertook farm experience in 2000. All students had attended intensively managed lowground flocks in the UK for three to four weeks. All aspects of the questionnaire were fully explained during the lecture timetable before distributing the form. It was not possible for veterinary undergraduate students to accurately grade the degree of assistance during attempted manual correction of the lambing problem and simple malpresentations and malpostures were included in the results.

Results

Flock size ranged from 80 to 3000 ewes (median 800) with a population total of 79 610 sheep. A total of 95 farms were attended by veterinary undergraduates. The median number per farm of lambings, including simple foetal malpostures and malpresentations, necessitating manual correction was 70 (range 2–1000). Fourteen farmers always used water and approved surgical scrub prior to examination of lambing difficulties, 17 mostly did, and 14 did on occasion, while the majority of shepherds (50; 53%) never washed their hands. Arm-length disposable plastic gloves were always used on 29 farms, on six farms gloves were used for most lambings, and on eight farms they were used occasionally, while the majority (52; 55%) never used gloves. More than one third of shepherds (32; 34%) neither washed their hands nor used arm-length gloves before attempted correction of a difficult lambing.

Lambs could not be delivered by farm staff in 359 ewes; 15 of 95 farmers (16%) requested veterinary assistance for a total of 22 dystocia cases. In those dystocia cases where veterinary assistance was not requested, 65 ewes (range 1–5 ewes on 38 farms) were humanely destroyed, and 272 (range 1–15 ewes on 58 farms) were injected with antibiotics but subsequently died because of ensuing toxæmia from the lambs remaining *in utero*. On certain farms some sheep were humanely destroyed while some were treated but died.

All assisted lambings received an antibiotic injection on 33 farms, whereas the majority of farmers (62; 65%) treated only ewes which became sick some days after the assisted lambing. Sick ewes were treated with a single antibiotic injection on 47 farms (76%), a course of three consecutive days' antibiotic on eight farms (13%), and on seven farms the duration of therapy was based upon response to treatment (11%). Penicillin was the antibiotic most commonly used by sheep farmers.

Discussion

It is evident from these data that the basic hygiene of farmers' approach to dystocia cases could be greatly improved on the majority of UK sheep farms by washing of the hands in approved scrub solution and use of arm-length disposable plastic gloves prior to correction of all dystocia cases. Arm-length gloves are cheap and easily carried within pockets; therefore

there can be no excuse for non-compliance with such basic hygiene precautions, even under extensive management systems. In the case of infectious causes of abortion, such precautions would be seen as a minimum standard to limit the risk of zoonotic infections.

No data have been published on the outcomes, with respect to metritis and other periparturient illnesses in sheep, of the high standards of hygienic practice undertaken by veterinarians during correction of ovine dystocia compared with the total lack of hygienic precautions adopted by more than one third of farmers. Although desirable, a cost-benefit analysis of the different methods would be difficult to achieve because many disease conditions resulting from periparturient bacteraemia, such as endocarditis, lung abscesses and vertebral body empyema, take months to manifest clinical signs and their precise origins could not be conclusively proven.

It is acknowledged that there are inherent errors and bias within survey populations. However, within the present survey it could reasonably be expected that those farmers who employed veterinary students during lambing time would be more likely to request veterinary attendance for dystocia cases than would average farmers. Therefore, this study may give an overestimate of veterinary attendance, rather than the converse. The data indicate that only 15 out of 95 farmers were prepared to request veterinary attention for dystocia cases, while a 15-fold number of lambing ewes never received veterinary assistance (337 sheep did not receive veterinary assistance while only 22 did). Euthanasia of ewes with dystocia is a recent development in the UK sheep industry based solely upon economic considerations because success rates exceeding 97% have been reported for caesarean operations undertaken in field situations (Scott 1989).

There are few published large-scale studies of veterinary attendance of ovine dystocia cases. Data collected by 36 farm animal veterinary practices published in UKVet (Anon 2000) revealed veterinary attendance at approximately 750–800 cases of dystocia, caesarean operation, ringwomb, uterine torsion, and uterine rupture per annum over the four-year study period 1997–2000. This average of 20 ovine dystocia cases per annum for each of these large farm animal practices serving over 50,000 sheep approximates the figure of 22 dystocias attended by practitioners in the present study of 79 610 sheep.

A survey involving 183 flocks comprising 89 000 sheep revealed that 289 ewes with lambing difficulties could not be corrected by farm staff and received veterinary attention, with 104 cases resolved by caesarean operation (Evans & Scott 1999). This dystocia rate (289 out of 89 000 sheep) is broadly comparable to that of the present survey (359 out of 79 610) but the striking difference was the reluctance of farmers in the present study to request veterinary assistance. There have been considerable advances in the provision of analgesia for ovine obstetrical conditions including vaginal, uterine and rectal prolapses (Scott *et al* 1995a; Gessert & Scott 1996; Scott & Gessert 1997a), dystocia (Scott & Gessert 1996), and caesarean operation (Scott *et al* 1995b; Scott & Gessert 1997b), but these analgesic regimens can only be implemented when such cases are presented to veterinary surgeons.

A review of antibiotic therapy of sick ewes following dystocia is apparently overdue, because the majority of sheep in the present study were injected with only a single injection of antibiotic, most commonly procaine penicillin. Three to four consecutive days' procaine penicillin therapy is now the treatment of choice for sick sheep with uterine infections (Menzies 2000); this advice is based upon the pharmacokinetics of the drug, and the regimen also necessitates daily handling and re-evaluation of sick ewes. Furthermore, long-acting penicillin formulations are no longer available in the United Kingdom and farmers must be made aware of this change.

Animal welfare implications

These data highlight important questions relating to the adoption of veterinary services on UK sheep farms and explain, in part, the 5% mortality rate of adult sheep, 70% of which die as the result of lambing difficulties. Ewes with dystocia that neither received veterinary attention nor were humanely destroyed, which totalled 0.34% of the sample population, suffered unnecessarily; if these figures are extrapolated to the UK flock of 22 million breeding ewes, this represents 75 000 ewes annually. This figure does not include those ewes which were euthanased by farm staff (estimated at 18 000) or assisted ewes which subsequently died from periparturient infections and associated bacteraemia.

There have been considerable advances in the provision of analgesia for ovine obstetrical conditions under field situations with marked improvements in the animals' well-being. Such improved care and welfare of sheep can only be effected by veterinary involvement in obstetrical problems, which was not requested on the majority of farms included in this survey. Veterinary advice has been available to farmers for the past 40 years but there have been no published reports of improvements in ewe and lamb survival figures; therefore, greater efforts must be made by practising veterinary surgeons to provide relevant education programmes for their sheep-farming clients.

If a 50% reduction in the ewe periparturient mortality rate could be achieved by greater direct veterinary involvement in dystocia cases, this would save the lives of an estimated 500 000 ewes annually in the UK.

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