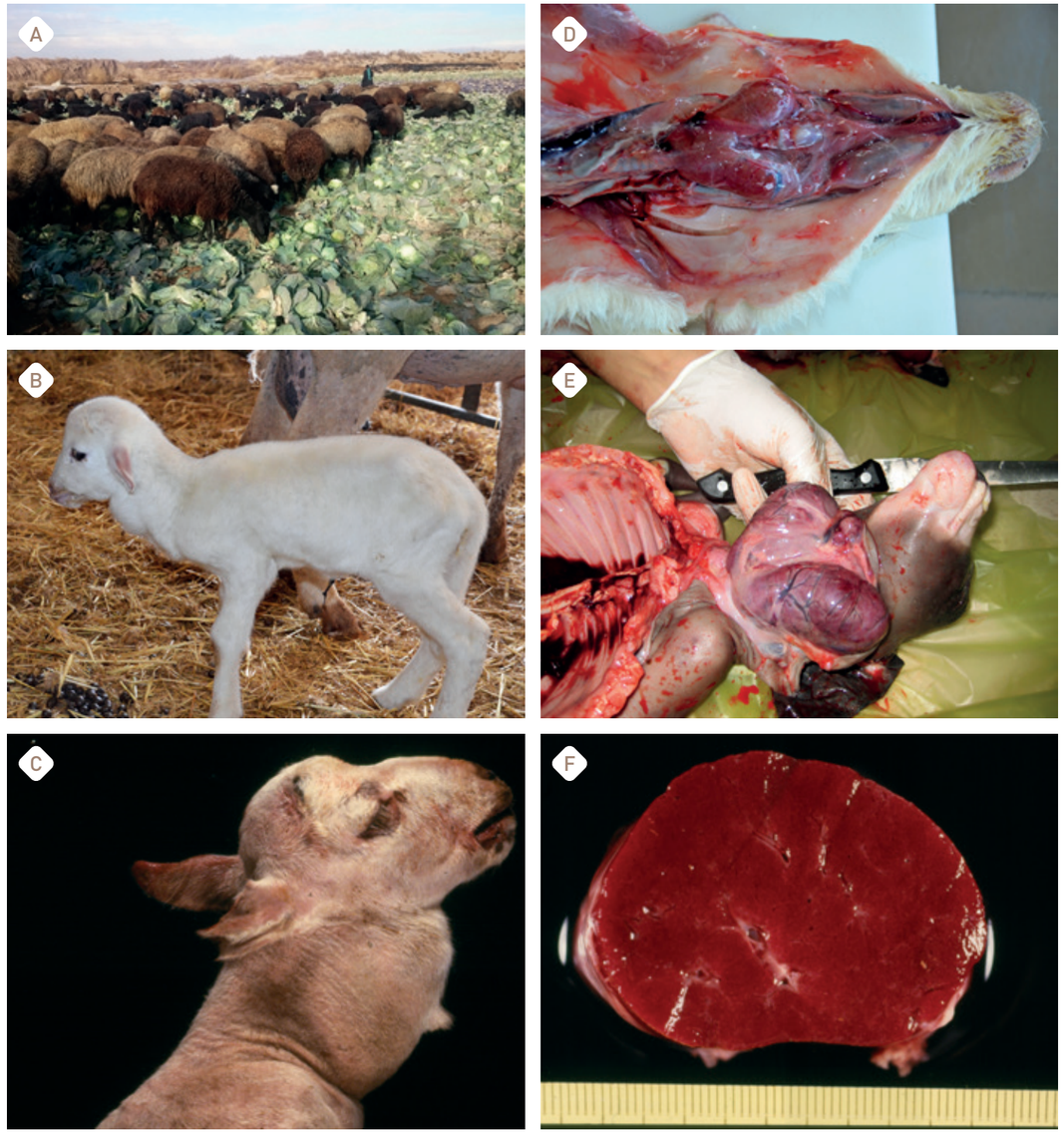
CONGENITAL GOITRE



1.69. **Congenital goitre.** It is a diffuse hyperplasia of the thyroid that appears in animals born to mothers suffering from iodine deficiency, either due to insufficient supply or due to the consumption of goitrogenic agents (plants of the genus *Brassica*, *Trifolium*, etc.) (A). A goitre of genetic origin associated with a recessive gene has been described. Neonates are weak (B) and may even have skin disorders with scant hair cover (C). The thyroid is enlarged (D and E), and the colour is usually deep red on section (F). Animals born alive have low vitality. The animals of certain breeds (e.g., Polled Dorset and Beetal goat) are more susceptible to this deficiency. *Picture E courtesy of Dr. R. Yousefvand.*

Diseases affecting newborn lambs

PERIPARTUM ASPHYXIA

2.1. **Asphyxia and hypoxia.** The time of delivery is crucial for the life of the lamb. Long-term languid births or dystocia, with the head protruding (A) or in caudal presentation, but without progression for a long time, compromise the umbilical circulation, and the animal may die or be born with hypoxia that makes movement and subsequent colostrum intake difficult (B).
The umbilical cord can encircle the neck and suffocate the fetus during delivery, especially in dystocic lambings/kiddings. After delivery, the lamb can be born with remains of the placenta covering its nostrils and mouth and die from suffocation if the mother does not attend to and clean it in the first moments after delivery (C and D).

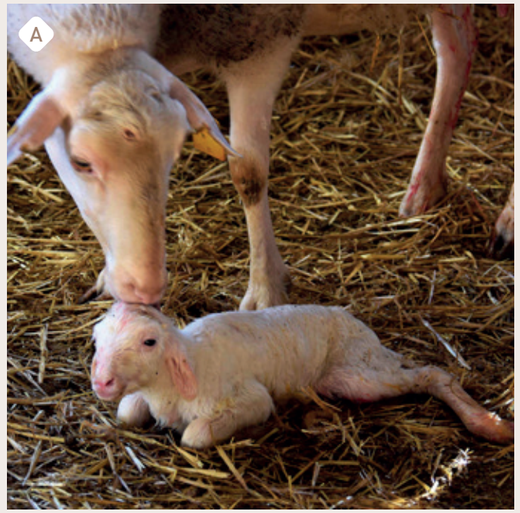
UMBILICAL CORD-ASSOCIATED DISORDERS

2.2. **Oedema due to poor circulation.** In addition to suffocating the fetus, the umbilical cord can encircle other body parts, such as the legs, and hinder venous return, generating oedema in the affected distal portion.

PREMATURE NEONATES

2.3. **Premature and low birth weight lambs and kids.** Some animals can be born underweight. This problem may be associated with poor nutrition of the mother, especially during the development of the placenta and in the last third of gestation (A and B) or with prolific litters (C). When neonates are born before the expected date (145-150 days), they can be born alive, but the nasal profile in the skull is much more marked than usual, perfectly defining the premature neonate (D). Usually, they can survive if they are well looked after. In multiple births, these premature lambs and kids are found frequently (E). Lack of enough weight favours hypothermia and neonatal mortality.

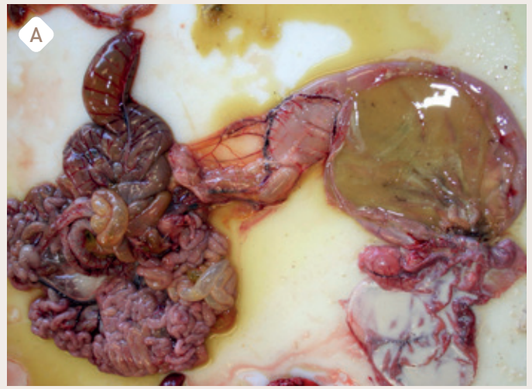
HYPOTHERMIA AND STARVATION



2.4. **Hypothermia.** This process can be environmental, in the case of low external temperatures, air currents, humid floors and little bedding, as well as due to lack of attention from the mother when she does not properly clean and dry the lamb (A and B). It can also be due to starvation, when the animal does not take colostrum in the first hours of life or receives insufficient milk during the following days, before starting to take solid food.

2.5. **Clinical signs.** Hypothermic animals present a characteristic posture: shrunken and with a slightly marked abdomen due to the absence or little ingested food (A and B). Frequently, they are close to a mother with little milk (C) or bleating in search of her mother (D). The problem is aggravated in very prolific litters (E) or with siblings with a significant difference in birth weight (F).

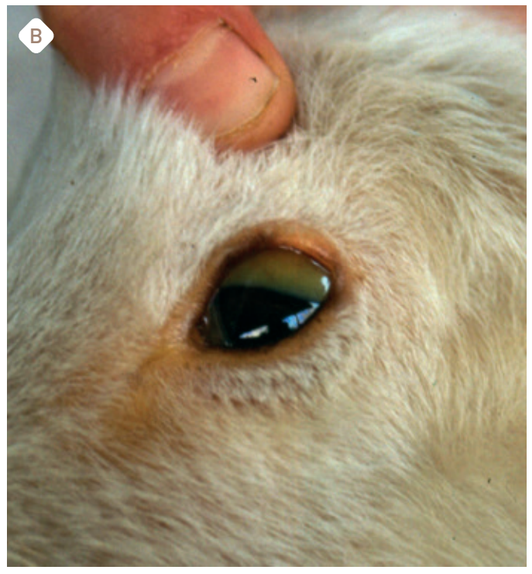
2.6. **Grouping of lambs and kids.** The grouping of animals in sunny areas indicates an inadequate temperature in the breeding shed (A and B). It is common for hypothermic animals to group together to keep warm and lose less energy. In the conditions that there is no proper bed and neonates are raised on nets or grates and the environment is cool, kids and lambs sleep on top of each other. This behaviour causes the death of weaker neonates (C). In cases of hunger, it is easy to find an animal with a dirty nasal area, resulting from repeated attempts to steal milk from other mothers by entering to nurse from the back area (D and E), while the son is milking in the right position (F).
The different adoption systems and heat sources (G) favour the survival of the animals. In the traditional systems, the adopted lamb is covered with the skin of the adoptive mother's dead lamb (H).



2.7. **Postmortem findings.** At necropsy, the absence of reserve fat (grey fat) and an empty digestive system, with little food or dirty content in the absence of milk is observed (A). The abomasum is empty (B) and the mesentery has no signs of milk absorption (C). Subcutaneous oedema is also observed in the limbs (D).
Some farmers believe that lambs and kids should not ingest milk during diarrhoea, so they prevent them from drinking by tying a cloth around their mouths. This can cause the kids to die of starvation (E and F).

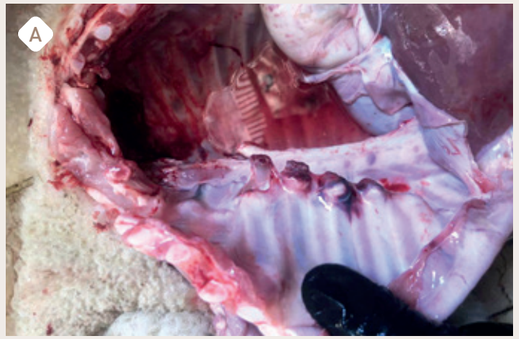
POOR COLOSTRUM INTAKE

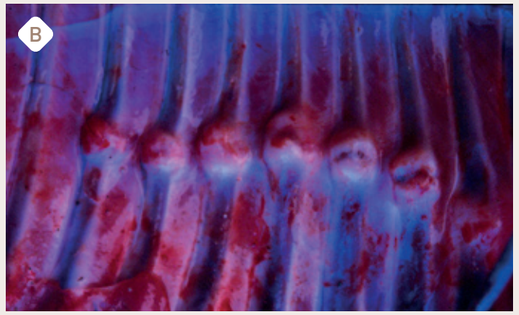
2.8. **Colostrum.** The neonate should receive colostrum from its mother as soon as possible, at least within two hours of birth (A). When this does not happen, it is necessary to give the lamb the colostrum from its mother or from another ewe who gave birth a few hours ago (B and C) or administer the first dose of colostrum with a probe (D).
If the colostrum intake has been adequate, the neonate will have enough energy to avoid hypothermia, be immunologically protected, and eliminate meconium correctly (E and F).



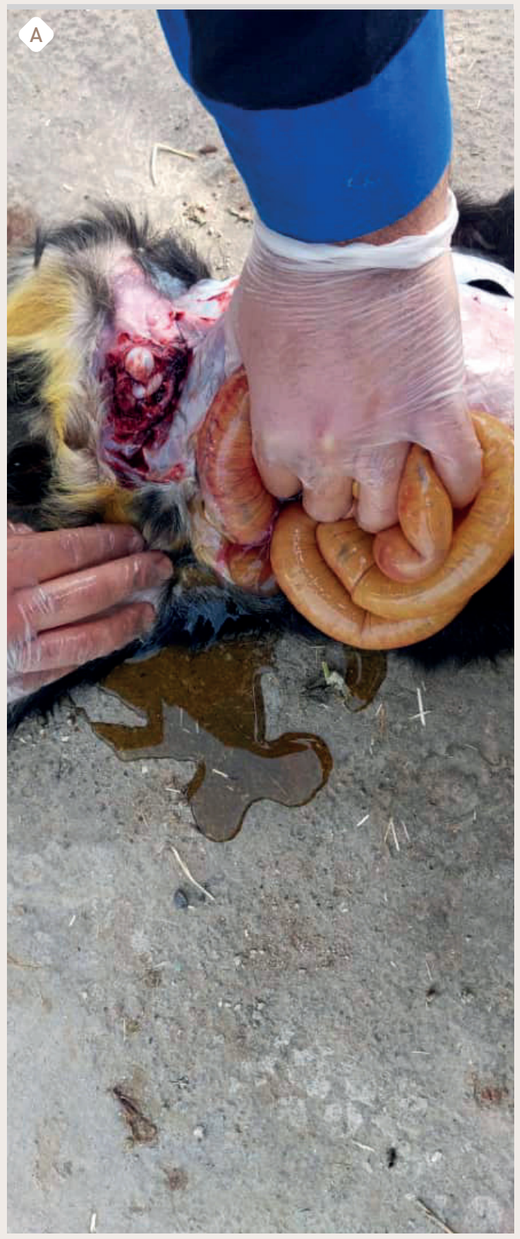
2.9. **Anaemia due to consumption of colostrum from another species.** In the absence of colostrum, one of the most frequent solutions is to use the colostrum from another species, generally bovine, because it is easy to obtain. On some infrequent occasions, this colostrum intake can cause haemolytic anaemia of autoimmune origin. Initially, the animal has pale mucous membranes, ending with jaundice (A and B).

INJURIES AND ACCIDENTS





2.10. **Trauma.** Most injuries to newborns or very young lambs are caused by being struck by other ewes and are related to overcrowding in the barn during the lambing period or to very prolific flocks. In both cases, the animals can get lost, and when approaching other ewes, they can be hit or pressed against a wall or an object causing severe lesions.
Rib fractures and possible lung injury are the most frequent damage after trauma (A). If the animal does not die, bulging calluses generate in the fractured area (B), which can cause adhesions and atelectasis in the bordering areas of the lung (C).



2.11. **Urinary bladder rupture.** Occasionally, when the urine bladder is full, and the lamb is hit, it can cause the bladder to rupture and urine to leak out, with the subsequent death of the animal.

2.12. **Trauma caused by the mother.** On other occasions, the mother can crush the neonate when she lies down (A). It is normally related to a lack of space in the adoption cells, animals with little vitality or multiple births. In these situations, neonates can also suffer trampling which usually causes temporary lameness due to pain (B).

2.13. **Cannibalism.** In certain circumstances, abnormal behaviours can be observed in the mothers, which can bite the neonate's hooves, ears or tail (A-C). They are usually associated with mineral deficiencies during pregnancy or abnormal behaviour of unknown aetiology.

2.14. **Accidents.** When the facilities and materials are not well designed, young animals can get hooked and/or hang (A and B).

Other disorders that affect the neonate, such as pneumonia (*see chapter 3*), diarrhoea (*see chapter 4*), and enzootic ataxia (*see chapter 8, page 422*), will be seen more extensively in the corresponding chapters.

Respiratory disorders