



Whole Blood Transfusion in a Goat with Severe Haemonchosis

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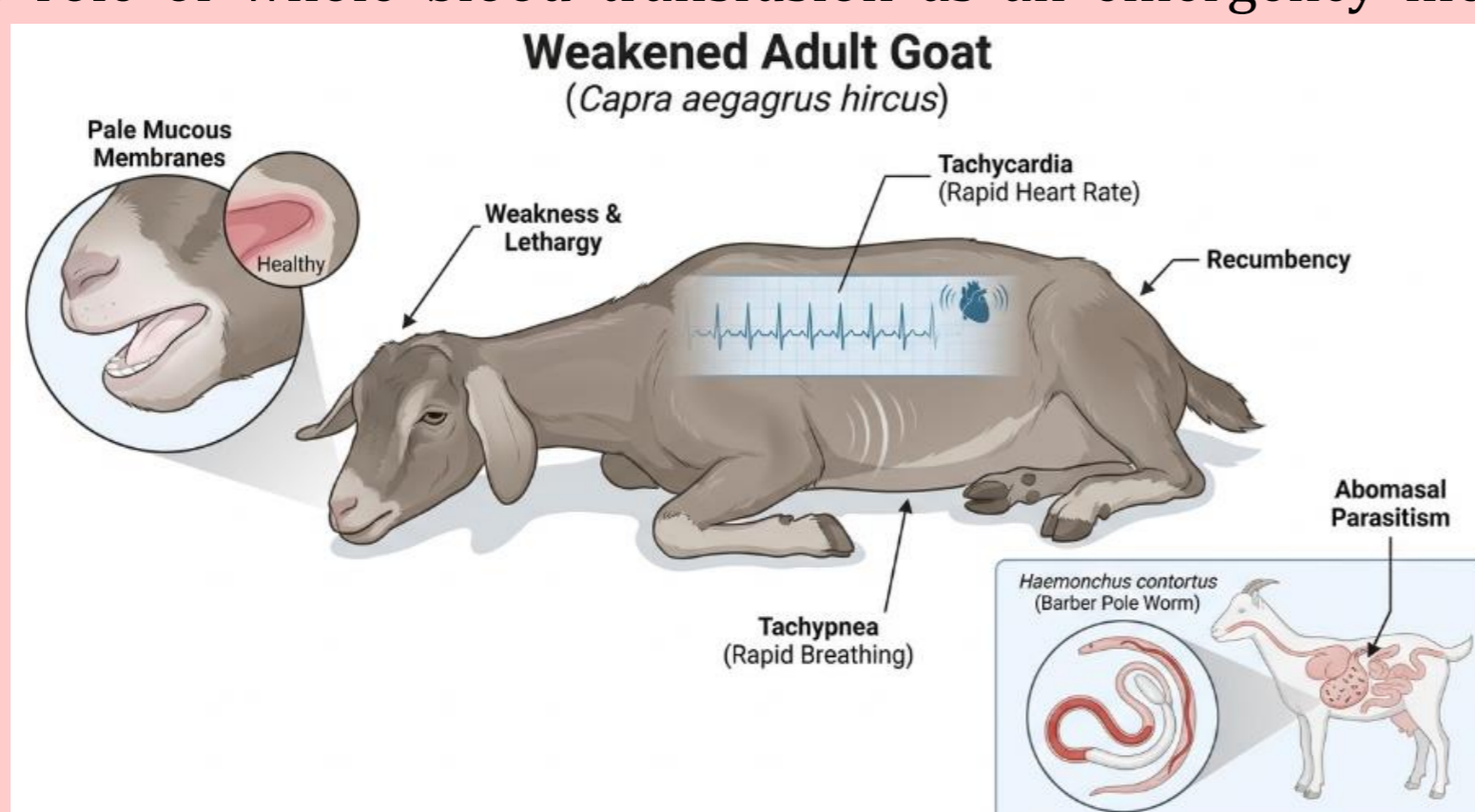
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Abstract: This case report describes emergency whole blood transfusion in an adult goat with severe anemia caused by *Haemonchus contortus*. The goat presented with recumbency, marked mucosal pallor, tachycardia, tachypnea, and a PCV of 9.7%. Haemonchosis was confirmed by coproparasitological examination and PCR. A 450 mL whole blood transfusion was administered from a compatible donor goat, followed by antiparasitic and supportive therapy. Clinical improvement was observed within 24 hours, with PCV increasing to 17%, and reaching 28% at discharge.

• Introduction

Haemonchosis caused by *Haemonchus contortus* is one of the most important parasitic diseases affecting goats worldwide. Due to its hematophagous activity, severe infections may rapidly induce acute anemia, weakness, circulatory compromise, and death. Increasing anthelmintic resistance complicates disease control and may reduce treatment efficacy. In critical cases, blood transfusion may provide rapid stabilization by restoring circulating red blood cell mass and tissue oxygenation.

AIM OF THE STUDY - To describe the clinical presentation, diagnosis, and therapeutic management of severe haemonchosis-associated anemia in a goat, emphasizing the role of whole blood transfusion as an emergency life-saving intervention.



• Case presentation

- Animal:
 - 36.5 kg adult female goat;
 - pasture grazing history;
 - no recent deworming.
- Clinical findings:
 - severe weakness and recumbency;
 - anorexia;
 - pale mucous membranes;
 - tachycardia (90 bpm);
 - tachypnea (60 breaths/min).
- Hematological findings:
 - Hemoglobin: 3.2 g/dL;
 - PCV: 9.7%;
 - RBC: 4.91 M/ μ L;
 - leukopenia and lymphopenia.
- Diagnosis:
 - high strongyle egg burden on fecal examination;
 - PCR (ITS-2 region) confirmed *Haemonchus contortus*.
- **TRANSFUSION PROCEDURE**
 - Compatible donor goat selected;
 - Slide agglutination test negative;
 - 450 mL whole blood collected in CPDA-1;
 - Intravenous transfusion performed over approximately 110 minutes;
 - No transfusion reactions observed.



• Results

Within 24 hours post-transfusion:

- PCV increased from 9.7% to 17%;
- heart and respiratory rates improved;
- goat regained standing ability;
- voluntary feed intake resumed.

• Treatment after stabilization:

- moxidectin (0.2 mg/kg PO);
- fluid therapy;
- vitamin B complex supplementation;
- adjunctive phytotherapy.

• At discharge (Day 7):

- PCV increased to 28%;
- marked clinical improvement;
- >95% reduction in fecal egg shedding.

Hematological evolution after transfusion and treatment is presented in the following table:

Parameter	24 h Post-Transfusion	Discharge (Day 7)	Reference Interval
Hemoglobin	5.8 g/dL	9.4 g/dL	7.4–12.3
PCV	17%	28%	23.5–38.3
RBC count	7.2 M/ μ L	11.8 M/ μ L	13.1–20.1
Reticulocytes	0.12%	0.25%	<0.5
WBC count	7.1 K/ μ L	9.2 K/ μ L	8.4–19.6
Lymphocytes	3.4 K/ μ L	5.6 K/ μ L	5–11
Neutrophils	4.1 K/ μ L	5.2 K/ μ L	3–8.5

• Discussion

Severe haemonchosis may rapidly become life-threatening due to acute blood loss and circulatory compromise.

In goats, reticulocyte response is often limited, making PCV and clinical assessment essential for evaluating disease severity.

Whole blood transfusion provided rapid hemodynamic stabilization and improved oxygen delivery.

Early intervention combined with effective antiparasitic therapy was essential for recovery.

This case supports the feasibility and clinical usefulness of transfusion therapy in goats under field conditions.

• Conclusions

Whole blood transfusion can be an effective emergency treatment in goats with severe haemonchosis-associated anemia.

Combined transfusion, antiparasitic therapy, and supportive care significantly improved clinical outcome and hematological recovery.

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