



BLOOD TRANSFUSION FOR THE TREATMENT OF SEVERE ANEMIA IN GOATS

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Master of Science in Surgery**

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Authorization

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June 2018

*DEDICATED
TO
MY BELOVED PARENTS
AND
SISTERS*

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Contents

Chapter	Name of Contents	Page No
	Authorization	ii
	Acknowledgements	v
	Table of content	vi-vii
	List of table	viii
	List of figure	viii
	List of abbreviations	ix
	Abstract	x
I	Introduction	2-4
II	Review of Literature	6-20
	2.1. Caprine hematology	6
	2.1.1. Bone marrow	6
	2.1.2. Haematopoiesis	6-7
	2.1.3. Blood composition	7-8
	2.2. Anemia	8-9
	2.2.1. Treatment of anemia	09
	2.3. Blood transfusion	09
	2.3.1. History	10
	2.3.2 Indications of blood transfusion	10-11
	2.3.3 Contraindication	11
	2.3.4 Blood types	11-12
	2.3.5 Transmissible diseases through blood transfusion	12
	2.3.6 Estimation of blood for transfusion	13
	2.3.7 Cross-matching test for compatibility	13-15
	2.3.8 Routes of administration	15
	2.3.9 Donor animals	16
	2.3.10 Collection of blood	16-17
	2.3.11 Adverse transfusion reaction	18
	2.3.12 Management of transfusion reaction	19-20
III	Materials and Methods	22-27
	3.1 Study area	22
	3.2 Design of the study	22
	3.3 Requirements	22- 23
	3.4 Group I- Blood transfusion group	24- 27
	2.4.1 Donor selection	24

	3.4.2 Recipient	24
	3.4.3 Pre-transfusion examination	24-25
	3.4.4 Blood transfusion technique	25-26
	3.4.5 Monitoring of recipient and Post-transfusion Examination	27
	3.5 Group II-Hematinic group	27
	3.6 Statistical analysis	27
IV	Results	29-34
	4.1 Effect of blood transfusion in recipient	29-30
	4.2 Effect of hematinic drug in severely anemic patient	31
V	Discussion	36-39
VI	Conclusion	41
VII	Recommendation	43
	References	44-49
	Annex	50-57
	Biography of author	58

List of Tables

Table No.	Name of Table	Page No.
1	Normal hematology-common blood parameters of goat	08
2	Blood types of different domestic ruminant	12
3	Interpretation of blood cross matching	15
4	Common anticoagulant preservative with amount	16
5	Blood parameter resulted from before and after treatment with blood transfusion or hematinic drugs	32
6	Effect of whole blood transfusion on breeds	34
7	Common clinical observations during blood transfusion	34

List of Figures

Figure No.	Name of Figure	Page No.
1	Blood bag, hemocytometer hemometer and microscope	23
2	Fresh blood transfusion in a severely anaemic goat	26
3	Advancement of concentration of erythrocytes at TEC count	30
4	Graphical presentation of changes of blood parameters after blood transfusion	33

List of Abbreviations

Abbreviation	Elaboration
DLS	Department of Livestock Services
CBC	Complete blood count
PCV	Packed cell volume
Hb	Haemoglobin
WBC	White blood cell
Sp.	Species
Kg	Kilogram
%	Percentage
ml	Mililitre
APS	Anticoagulant preservative solution
EDTA	Ethylene-diamine-tetra acetic acid
CPD	Citrate phosphate dextrose
ACD	Acid citrate dextrose
°C	Degree Celsius
h	Hour
ECG	Electrocardiogram
IV	Intravenous
pRBC	Packed red blood cell
TVH	Teaching Veterinary Hospital
TEC	Total erythrocyte count
TLC	Total leukocyte count
ESR	Erythrocyte sedimentation rate
SAQTVH	Shahidul Alam Quaderi Teaching Veterinary Hospital
CVASU	Chittagong Veterinary and Animal Sciences University
SD	Standard deviation
TP	Total protein
Min	Minute
Pp	Pages
<i>et al.</i>	And his associates

Abstracts

The study was aimed to appraise the clinical and hematological responses of whole blood transfusion in severely anemic goat for the evaluation of feasibility of blood transfusion practice in Bangladesh. From January 2017 to September 2017, total 147 anemic goats were admitted in the Teaching Veterinary Hospital, CVASU, Bangladesh. Among them, 23 clinical anemic goats (10 for hematinic treatment and 13 for blood transfusion) of 1-2 years of age, weighing average 15 kg body weight were considered as study population. Recipients for blood transfusion were selected depending on the clinical and hematological parameters of the patients containing less than 18% PCV with clinical sign of weakness and pale or white mucous membrane. Total 13 randomly selected healthy goats were nominated as donor for blood collection in citrate phosphate dextrose adenine (CPDA-1) containing blood collecting bag that was freshly transfused to the recipient @10-12 ml/kg body weight. Clinical, haematological (TEC, HB, PCV and ESR) and biochemical (TP) parameters were evaluated before and after treatment with either hematinic drug or whole blood. In the blood transfusion group, total erythrocyte counts (TEC), packed cell volume (PCV), hemoglobin (Hb) and total protein (TP) were increased significantly ($p < 0.05$) at 6th, 9th and 12th days of post-transfusion in comparison to pre-transfusion values. The Erythrocyte sedimentation rate (ESR) values were gradually declined significantly ($p < 0.01$) after transfusion due to improved health condition of goats. In the hematinic group, nine patients died after treating with hematinic drug rather than blood transfusion. One patient was live among 10 after 3rd day of experiment and hemato-biochemical values were increased in that patient. Two months after treatment, all patients of blood transfusion group were recovered successfully whether nine patients were died within three days of experiment in hematinic treatment group. Therefore, it is concluded that single whole blood transfusion to severely anemic goats can be applied as a life-saving therapy to field practitioners in all over the country.

Keywords: Anemia, goat, whole blood transfusion