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AN ELECTROPHORETIC INVESTIGATION OF RAT INTERSTITIAL FLUID PROTEINS

J. H. COETZEE

AN ELECTROPHORETIC INVESTIGATION OF RAT INTERSTITIAL FLUID PROTEINS

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ABSTRACT

Interstitial fluid (obtained from capsules implanted subcutaneously into the backs of rats) and blood plasma were separated by disc electrophoresis into different protein fractions and the concentration of each was determined. Variations in the animal's protein fractions from the normal after exposure to heat, cold and exercise, were studied. Hematocrit readings were recorded and the colloid osmotic pressures of normal interstitial fluid and plasma were determined.

The interstitial fluid gave very similar results to those obtained by some authors who employed different sampling techniques. All the plasma protein fractions were found to be present in interstitial fluid. The albumin concentrations varied in the intra- and extravascular compartments during cold and heat exposures. There was an increased movement of albumin between the two compartments during exercise. Possible explanations for the above and other results obtained are discussed.

The presence of a modified albumin molecule or a protein exclusive to interstitial fluid by immuno- and crossed immunoelectrophoresis could not be demonstrated.

DECLARATION

I declare that this dissertation is my own, unaided work. It is being submitted for the degree of Master of Science in the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in any other University.

J. H. Loots

Twenty-fifth day of March 1981.

To my wife, Alida.

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TABLE OF CONTENTS

	Page
LIST OF FIGURES, TABLES AND PLATES	v
1. INTRODUCTION	1
2. REVIEW OF LITERATURE	6
2.1 Classification	6
2.2 Interstitial Fluid Characteristics	6
2.3 Extravascular Circulation	8
2.3.1 Interstitial Fluid and Lymph	8
2.3.2 Interstitial Fluid Proteins	10
2.4 Interstitial Fluid Studies	14
2.4.1 Interstitial Fluid Pressure	14
2.4.2 Interstitial Fluid Sampling	14
2.4.3 Capsular Fluid	17
2.5 Choice of Sampling Technique	21
3. MATERIALS AND METHODS	26
3.1 Implantation of Capsules	26
3.2 Sampling of Capsular Fluid and Blood	27
3.3 Hematocrit Determinations	28
3.4 Protein Concentrations	28
3.5 Colloid Osmotic Pressure	28
3.6 Preparation and Isolation of Immunoglobulins	28
3.6.1 Immunoglobulins against Rat Plasma	28
3.6.2 Immunoglobulins against Interstitial Fluid	29
3.7 Electrophoresis	29
3.7.1 Disc Electrophoresis	29
3.7.1.1 Preparation of mixed Sephadex G-25 Polyacrylamide Gels (Sephadex Gels)	29
3.7.1.2 Preparation of Polyacrylamide Gels	30

Page

3.7.1.3 Electrophoretic Separation of Plasma and Interstitial Fluid Proteins 30

3.7.2 Crossed Immunoelectrophoresis 31

3.7.3 Immunoelectrophoresis 33

3.8 Recordings 33

3.8.1 Disc Electrophoresis 33

3.8.2 Crossed Immunoelectrophoresis 34

3.8.3 Immunoelectrophoresis 35

3.9 Cold and Heat Exposures and Exercise 35

3.9.1 Normal 35

3.9.2 Exposure to Cold 36

3.9.3 Exposure to Heat 36

3.9.4 Exercise 36

3.10 Chemicals 37

4. RESULTS 38

4.1 Disc Electrophoresis 38

4.1.1 Polyacrylamide Gel Electrophoresis 38

4.1.2 Sephadex Gel Electrophoresis 39

4.2 Crossed Immunoelectrophoresis 40

4.3 Immunoelectrophoresis 41

4.4 Comparison between Laboratory prepared Antibodies and Commercial Antibodies 41

4.5 Reactions of Antibodies prepared against Interstitial Fluid 42

4.6 Protein Concentrations after six months 42

4.7 Normal Conditions 43

4.8 Cold Exposure 44

4.8.1 Plasma 45

Page

4.8.2 Interstitial Fluid 45

4.9 Heat Exposure 46

4.9.1 Plasma 46

4.9.2 Interstitial Fluid 46

4.10 Exercise 47

4.10.1 Plasma 48

4.10.2 Interstitial Fluid 48

4.11 Summary 48

5. DISCUSSION 51

5.1 Normal 51

5.1.1 Plasma 51

5.1.2 Interstitial Fluid 57

5.2 Cold Exposure 63

5.2.1 Plasma 63

5.2.2 Interstitial Fluid 68

5.3 Heat Exposure 72

5.3.1 Plasma 74

5.3.2 Interstitial Fluid 77

5.4 Exercise 81

5.4.1 Plasma 83

5.4.2 Interstitial Fluid 86

5.5 Future Research 89

6. CONCLUSION 91

6.1 Normal 91

6.2 Cold Exposure 92

6.3 Heat Exposure 93

6.4 Exercise 94

7. APPENDIX 96

Page

8. LIST OF REFERENCES 132

LIST OF FIGURES, TABLES AND PLATES

		Page
Plate 1	Six months after capsule implantation showing tissue overgrowth	97
Plate 2	Six months after capsule implantation with tissue partly removed	97
Plate 3	Crossed immunoelectrophoresis of plasma with commercial antibodies	98
Plate 4	Crossed immunoelectrophoresis of plasma with laboratory prepared antibodies	98
Plate 5	Crossed immunoelectrophoresis of interstitial fluid with commercial antibodies against plasma	99
Plate 6	Crossed immunoelectrophoresis of interstitial fluid with laboratory prepared antibodies against plasma	99
Plate 7	Immunoelectrophoresis of interstitial fluid and plasma with laboratory prepared antibodies against plasma	100
Plate 8	Immunoelectrophoresis of interstitial fluid and plasma with commercial antibodies against plasma	100
Plate 9	Immunoelectrophoresis of interstitial fluid and plasma with antibodies prepared against interstitial fluid	101
Table 1	A comparison of interstitial fluid protein concentrations six weeks and six months after	

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