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SUSPECT IDENTIFICATION THROUGH BLOOD GROUPING OF BIOLOGICAL EVIDENCES

Nitya Mishra¹, M. K. Mishra² and Lav Kesharwani³

¹M.Sc. Forensic Science, Department of Forensic Science, Sam Higginbottom Institute of Agriculture, Technology & Sciences.

²Assistant Professor, Department of Forensic Science, Sam Higginbottom Institute of Agriculture, Technology & Sciences.

³Assistant Professor, Department of Forensic Science, Sam Higginbottom Institute of Agriculture, Technology & Sciences.

ABSTRACT

While researching cases, hunting down moment follow confirmations like Blood, Semen, Saliva, Vaginal Fluids, Urine and Sweat beginning from either suspect or casualty is a critical part for certainties of understanding what sort of wrongdoing had occurred.

In present study 6 speculated tests (S1, S2, S3, S4, S5, S6) and 6 control tests (C1, C2, C3, C4, C5, C6) of 6 cases were inspected by hypothetical test (Benzidine Test, Acid Phosphatase, Phadebase paper test separately) and

corroborative test (Teichmann Test and Agarose gel electrophoresis) for blood, semen, salivation. After examination and relationship of each of the 12 tests it was found that S1, S3, S4 and C1, C3, C4 were blood tests and S2, S6, C2, C6 were semen tests and S5, C5 was blood, semen separately. Suspected example S1, S2, S4, S6 coordinated with Control tests C1, C2, C4, C6 for blood amass though Suspected specimens S3, S5 were not coordinated with control tests C3 and C5 for blood aggregate.

KEYWORDS: Blood group, Body fluid, Benzidine, Absorption Elution.

INTRODUCTION:

Term body fluid is utilized as a part of a legal setting to allude to things of organic proof. The term is chronicled one whose importance has been extended because of the revelation of the evidential noteworthiness of different organic material (body fluids). Body liquids partitioned into two classes discharged liquid and emitted liquids. Excreted liquid that might be found at a wrongdoing scene incorporate regurgitation, bile and sebum discharged liquids incorporate blood, plasma, semen, spit, female discharge and pee. Spit is a watery substance situated in the mouth of all creature and human and is a clinically informative, natural liquid that is valuable for novel ways to deal with prognosis. There are various sorts of body liquid that might be at the wrongdoing scene or on a victim, all of which can possibly be investigated and



utilized as a part of recognizable proof and implication of the culprit. The examination of such substances can not just give pieces of information with regards to the character of the guilty party, additionally help examiner built up a point by point picture of grouping of occasions which happened. The nearness of certain organic liquids can be fantastic markers of what has happened.

The Acid Phosphatase Test is a standout amongst the most widely recognized tests for semen recognition. Corrosive phosphate is a compound discharged by the prostate organ that is available in huge sums in fundamental liquid. The level of AP movement is 500 to 1,000 circumstances higher in human semen than in some other body liquid. AP can catalyze the hydrolysis of phosphates, which brings about the arrangement of an item that will respond with the shading engineer. In this manner, within the sight of Alpha-Naphthyl corrosive phosphate and Brentamine Fast Blue, AP will deliver a dim purple shading.

Another hypothetical test for semen that has been around for quite a while however no more drawn out routinely utilized is the test for the nearness of choline. One test for choline is the Florence test which include putting a concentrate of an addressed stain on a tiny slide and watching the cocoa needle gem that frame and this test is negative for other body liquid including vaginal liquid and in addition semen from different species.

The most usually used blood tests is the Benzidine test, where the nearness of blood is shown by blue shaded items. Be that as it may, there are a few substances which can create false positives for this test, for example, compound oxidants and leafy foods peroxidases. Besides, Benzidine is known as a cancer-causing agent.

MATERIAL and METHOD:

Samples were given by Forensic Science Laboratory. Tests were inspected through their Primitive test (Benzidine test, corrosive phosphatase test and Confirmatory test (Teichmann Test, Agarose gel electrophoresis Test) after examination its blood amass performed through assimilation elution technique.

For possible trial of blood Benzidine test was utilized.

Reagent

Sodium acetate	- 5gm,
GAA	- 43ml
Demonized water	- 50ml

Working solution

TMB	- 4gm
Acetate buffer	- 20ml

Procedure

One drop of sample was taken on filter paper and two drop of Benzidine reagent was added..Mixture was allowed to react for half a minute. Few drops of hydrogen peroxide were added and observations were noted. Blue color on filter paper indicates the positive reaction for presence of presence of blood.

For confirmation of blood

Teichmann Test

Reagent

Potassium chloride	.1gm
Potassium bromide	.1gm

Potassium Iodide .1gm
Glacial acetic acid 100ml

Procedure

Sample was taken on microscopic slide and covered with cover slip. Let the reagent flow under cover slip. Warm the slide gently on a hot plate at 65 degree Celsius for 10-20 sec. Allow to cool and observe under microscope at 100x.

The appearance of brown rhombohedron shaped crystal of ferroprotophyrin chloride is a positive reaction for heme.

Acid phosphatase test

Reagent

Sodium chloride - 230gm
Glacial acetic acid - 5ml
Anhydrous sodium acetate - 18gm
Brentamine fast blue B salt - .5gm
Calcium alpha-naphthyl phosphate - .5gm
One percent solution of teepol - 10 ml
Distilled water - 900ml

Procedure

For hypothetical trial of semen corrosive phosphatase test was utilized. One drop of test was gone up against glass slide. The corrosive phosphatase reagent arrangement was added to it and perceptions were noted. Purple shading demonstrates positive response for nearness of semen.

Corroborative test for compound original corrosive phosphatase was finished by utilizing Agarose gel electrophoresis where concentrate of semen stains in Tris cushion (pH 4.9) was arranged and spotted on Agarose gel. The plate was subjected to electrophoresis for 30 minutes at 20 m Amp. Recoloring was finished by 4-methyl umbellyferryl phosphate. Precipitin groups were pictured under UV source at 254 nm wavelength. Blue groups were seen to affirm the nearness of the semen.

Blood grouping

ABO gathering by retention elution technique was done after affirmation of nearness of various body liquid when ABO gathering of chose stain was performed. Fiber of dried stain were hatched with known antisera for overnight at ten degree Celsius. On following day, fiber were altogether washed by icy saline to expel antibodies. Absorbed antibodies were eluted by keeping strands at 56 degree Celsius temperature. Eluted antibodies were known newly arranged cell. In this manner the blood gathering were gotten.

RESULT AND DISCUSSION:

Table showing result of presumptive test of suspected sample

Sample	Benzidine test	Acidphosphatase test	Phadebas test
S ₁	+	-	-
S ₂	+	-	-
S ₃	+	-	-
S ₄	+	-	-
S ₅	+	-	-
S ₆	-	+	-

Table showing result of confirmatory test of suspected samples

Sample	Confirmatory test
S ₁	+ ve Teichmann Test for blood
S ₂	+ ve Teichmann Test for blood
S ₃	+ ve Teichmann Test for blood
S ₄	+ ve Teichmann Test for blood
S ₅	+ ve Teichmann Test for blood
S ₆	+ve Agarose gel electrophoresis for semen

Table showing result of presumptive test of control sample

Sample	Benzidine test	Acidphosphatase test	Phadebas test
C ₁	+	-	-
C ₂	-	+	-
C ₃	+	-	-
C ₄	+	-	-
C ₅	-	+	-
C ₆	-	+	-

Table showing result of confirmatory test of control sample

Sample	Confirmatory test
C ₁	+ve Teichmann Test for blood
C ₂	+ve Agarose gel electrophoresis for semen
C ₃	+ve Teichmann Test for blood
C ₄	+ve Teichmann Test for blood
C ₅	+ve Agarose gel electrophoresis for semen
C ₆	+ve Agarose gel electrophoresis for semen

Table showing blood group of suspected and control sample

Sample	Blood group
S ₁	O -ve
C ₁	O -ve
S ₂	O +ve
C ₂	O +ve
S ₃	B -ve
C ₃	A +ve
S ₄	O +ve
C ₄	O +ve
S ₅	O +ve
C ₅	AB +ve
S ₆	B -ve
C ₆	B -ve

In present study 12 tests of 6 cases were broke down and analyzed .Out of 12 tests 6 was control test and 6 was suspected specimen. S1 and C1 of case 1 were inspected with the assistance of possible and corroborative test. After examination S1 and C1 tests were distinguished as blood. It was assembled and was found that blood gathering of S1 and C1 were O-.Blood gathering of suspected and control were matched.S2 and C2 of case 2 were inspected with the assistance of possible and corroborative test. After examination S2 and C2 recognized as semen. It was gathered and was found that blood gathering of S2 and C2 were O+. Blood gathering of suspected and control were coordinated. S3 and C3 of case 3 were analyzed with the assistance of primitive and corroborative test. After examination S3 and C3 recognized as blood. It was gathered and was found that blood gathering of S3 was B-and C3 was A+. Blood gathering of suspected and control was not coordinated. S4 and C4 of case 4 were analyzed with the assistance of primitive and corroborative test. After examination S4 and C4 recognized as blood. It was assembled and was found that blood gathering of S4 and C4 was O+. Blood

gathering of suspected and control were coordinated. S5 and C5 of case 5 were analyzed with the assistance of primitive and corroborative test. After examination S5 distinguished as blood and C5 recognized as semen. It was gathered and was found that blood gathering of S5 and C5 was O+ and AB+. Blood gathering of suspected and control were not coordinated. S6 and C6 of case 6 were inspected with the assistance of primitive and corroborative test. After examination S6 and C6 distinguished as semen. It was assembled and was found that blood gathering of S6 and C6 were B-. Blood gathering of suspected and control were coordinated.

SUMMARY AND CONCLUSION:

During dissertation work 12 tests of 6 cases were given by Forensic Science Laboratory. For investigating the example of proof different strategy were utilized for primitive trial of blood Benzidine test was utilized and it give occasion pale blue green shading very quickly. In corroborative trial of blood Teichmann Test is performed and it gave chestnut rhombohedron formed gem of ferroprotoporphyrin chloride. To look at stain of suspected example for semen, primitive test was corrosive phosphatase test was performed and it gave purple shading inside couple of minutes. For affirmation of nearness of semen Agarose gel electrophoresis strategy was utilized. It was additionally examined for gathering through retention elution strategy for blood and semen.

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