

1 June 5, 1985 - 2:33 p.m. - Court called to order.

2 MR. ROBINSON: The State will call Ron Enzenauer
3 to the stand, please.

4
5 RONALD W. ENZENAUER

6 called as a witness on behalf of the
7 plaintiff, having been first duly sworn,
testified as follows on

8 DIRECT EXAMINATION

9 By Mr. Robinson:

10 Q Mr. Enzenauer, where are you employed?

11 A I'm employed by the State of Minnesota, Bureau of
12 Criminal Apprehension.

13 Q Do you have a particular job responsibility with that
14 state agency?

15 A Yes, I do.

16 Q What is that job that you hold?

17 A I work in the microserology section at the lab.

18 Q Will you explain briefly to the jury what the
19 microserology division of the Bureau of Criminal Apprehension
20 does?

21 A My duties at the lab in this section are to analyze any
22 blood samples or seminal fluid or vaginal fluid to determine
23 a type.

24 Also the micro part of the section deals with examining
25 paint samples, glass, soils, fibers, or anything of this

1 nature.

2 Q How long have you been employed with the Department of
3 - or excuse me, the Bureau of Criminal Apprehension?

4 A Approximately nine years.

5 Q How many of those years have you worked in
6 microserology?

7 A A little over four years.

8 Q What is your educational background?

9 A I received a Bachelor of Science Degree at Mankato
10 State College. This was majoring in biology.

11 Q And what year was that?

12 A In, I believe, 1972.

13 Q Does part of your specific responsibility include the
14 testing and typing of blood and semen samples?

15 A Yes.

16 Q How many years have you been doing that particular type
17 of testing?

18 A Since I was in the microserology section, a little over
19 four years.

20 Q In that period of time, how many cases have you
21 actually done typing of blood and semen samples for?

22 A It would be thousands of samples that I've tested.

23 Q How many cases of involving criminal sexual assault in
24 the past have you roughly testified in?

25 A Ah, as far as sexual assaults, maybe 20 - 15, 20.

1 Q Now, are you familiar with the name - names of Paula
2 Tapala and David Sutherlin?

3 A Yes.

4 Q How are you familiar with those names?

5 A I've received some evidence on this case.

6 Q Do you recall what date you received the evidence that
7 you refer to?

8 A On the 15th of April, I received some samples involving
9 these two individuals.

10 Q Who were these samples submitted by?

11 A They were submitted by an Officer Millar of the St.
12 Paul Police Department.

13 Q Can you state what the samples were that you received
14 from Officer Millar?

15 A I received a manila envelope containing samples from a
16 and inside this manila envelope was a blood
17 sample and a saliva sample that I tested.

18 Also I received a manila envelope containing samples
19 from a David Sutherlin and I also analyzed the blood sample
20 or the saliva sample from these too.

21 There was a manila envelope containing a vaginal swab
22 from and a manila envelope containing pubic
23 hair combings from a

24 There was also a manila envelope containing suspected
25 blood stains from a vehicle.

1 Q Now, is there a specific procedure that you use in
2 typing blood and semen samples?

3 A Yes.

4 Q What is the procedure that you normally follow in
5 typing blood and semen samples?

6 A Well, if we are looking for a semen sample, the first
7 thing we will do is examine any items for the presence of
8 seminal fluid and then after - if a seminal fluid is found I
9 will proceed to determine a secretor status of this and
10 possibly a P.G.M. enzyme.

11 Q Let's deal with these individually. Did you obtain any
12 material which you found the presence of semen to be
13 contained within?

14 A Yes.

15 Q And what was that?

16 A The vaginal swab that was from I
17 examined this and I did find the presence of human seminal
18 fluid.

19 Q Will you describe what you did in coming to your
20 conclusion that there was semen and seminal fluid in the
21 vaginal swab?

22 A There are a number of tests I do to determine the
23 presence of seminal fluid.

24 There is an acid phosphatase test, which is merely a
25 combination of part of the vaginal swab with a couple of

1 liquids looking for a color change.

2 There is also a precipitin reaction in which part of
3 this vaginal swab is combined with an antihuman sera that
4 reacts with human semen and then I also make a slide of the
5 actual swab and look for the presence of intact
6 spermatozoa.

7 Q Did you actually review a slide of a suspected semen
8 sample from the materials submitted to you relating to Paula
9 Tapala?

10 A I made a slide from the vaginal swab itself.

11 Q Okay. And did you do a microscopic examination of what
12 was contained on the slide?

13 A Yes.

14 Q What did you observe on the slide?

15 A I did observe the presence of intact spermatozoa.

16 Q Now, you indicated that another aspect of your test is
17 doing a secretor status examination, is that correct?

18 A Yes.

19 Q Will you explain, first of all, what is meant by the
20 term "secretor"?

21 A By secretor, this is meant that a person has an A B O
22 blood type. It's either Type A, Type B, Type A-B or Type O
23 and if a person is a secretor, they will secrete these A B O
24 blood type factors in their other body fluids, such as the
25 saliva sample or a seminal sample. And in women, this A B O

1 factor would be secreted in their vaginal samples.

2 Q Now, does everyone - that is every person have the
3 status of being a secretor?

4 A Only if - approximately 80 percent of the population
5 are secretors. The other 20 percent do not secrete their A B
6 O factors in their other body fluids.

7 Q From what substances do you determine whether or not a
8 person is or is not a secretor?

9 A By examining a person's saliva sample, we can determine
10 if they are secretor or a nonsecretor.

11 Q Now, you testified that you had saliva samples both
12 from as well as David Sutherlin, is that
13 correct?

14 A Yes, that is correct.

15 Q Did you do a secretor status examination of those two
16 samples?

17 A Yes, I did.

18 Q And what were your conclusions?

19 A I examined both of the saliva samples and it was found
20 that both and David Sutherlin are secretors.

21 Q Okay. Now, can you determine blood type as a result of
22 conducting a secretor status examination?

23 A Yes.

24 Q Will you state what's employed in determining blood
25 type?

1 A Okay. First off, I will examine their blood to - that
2 I obtained from an individual and determine what their blood
3 type is.

4 Then when I do a secretor on their saliva it will
5 indicate their blood type or it will indicate no blood type
6 versus if they are secretor or a nonsecretor.

7 Q Now, you've testified that both were secretors, is that
8 correct?

9 A Yes.

10 Q And did you also conduct an examination of the blood
11 samples of both individuals, and David
12 Sutherlin, that were submitted to you?

13 A Yes.

14 Q What were the results concerning the blood typing of
15 ?

16 A I typed her blood and her blood type is type A-B.

17 Q Did you find evidence of secretor status in her swab,
18 her saliva swab?

19 A The saliva sample from indicated A-B
20 secretor.

21 Q Did you also conduct a blood sampling of the David
22 Sutherlin's sample which you received?

23 A Yes.

24 Q And what blood type was that?

25 A David Sutherlin is a blood type B.

1 Q And did you also conduct an examination of the saliva
2 sample to determine the secretor status of David Sutherlin?

3 A Yes, I did.

4 Q And what was the status as determined by you from your
5 examination of that saliva sample?

6 A Examination of the saliva sample indicated that he was
7 a B secretor.

8 Q Now, you testified that there was an additional test, a
9 P.G.M. test that you conducted, is that correct?

10 A That is correct.

11 Q Will you explain, first of all, what P.G.M. means?

12 A P.G.M. is an enzyme that is found in an individual's
13 blood sample. It is similar to the A B O typing of the blood
14 only it is a different enzyme that is tested for. And this
15 P.G.M. enzyme is also found in seminal fluid and in vaginal
16 fluid.

17 Q Okay. I'd like to back up for a moment, if I can, and
18 go back to the secretor sampling that you did.

19 What is the purpose of conducting a secretor
20 analysis?

21 A The purpose is to determine what possible type of
22 secretor status the seminal fluid is in a sample.

23 Q Okay. Will you explain masking - the concept of
24 masking?

25 A In this particular case, an A-B individual will mask

1 every other blood type as far as secretor status.

2 Q Okay. I guess we need a little bit further explanation
3 as to what the term "masking" means?

4 A Okay. If there is a combination of an A-B secretor
5 individual, let's say in a saliva sample, there could be an A
6 secretor, a B secretor, an O secretor, another A-B secretor
7 or any nonsecretor mixed in with this sample and I would not
8 be able to determine this.

9 Q Can you differentiate in any way between secretors
10 where one of the parties is not an A-B blood type?

11 A If one of the parties is an A-B secretor, you cannot
12 differentiate anything.

13 Q Now, going ahead again to the P.G.M. typing that you
14 did, can you basically tell us what the results of that
15 typing indicated?

16 A Okay. I conducted the P.G.M. enzyme test on the - both
17 the vaginal swab and some underpants and I obtained results
18 from this P.G.M. enzyme typing.

19 And I also did the P.G.M. enzyme typing for both the
20 blood samples from and David Sutherlin to
21 determine what types they were.

22 Q And what were the results of your typing, P.G.M.
23 typing?

24 A Both vaginal swab and the underpants had P.G.M. typing
25 two-plus one-plus.

1 Q Okay. Can you explain what this two-plus one-plus
2 scenario is?

3 A Okay. In P.G.M., like A B O typing, there are four
4 major groups. In P.G.M. typing, there are ten common P.G.M.
5 types.

6 These are P.G.M. type one-plus; P.G.M. type one-minus;
7 P.G.M. type two-plus; and a P.G.M. type two-minus. Then
8 there are any combination of any two of them, such as P.G.M.
9 two-plus one-plus or P.G.M. two-minus one-minus, in order to
10 make up ten possible combinations.

11 Q Now, what were the results concerning your P.G.M.
12 typing of samples?

13 A I examined her blood sample and determined that she
14 was P.G.M. type one-plus.

15 Q And did you also do a P.G.M. typing on the samples
16 submitted to you which came from David Sutherlin?

17 A Yes, I did.

18 Q And what were your conclusions concerning that?

19 A David Sutherlin's blood was a P.G.M. type two-plus
20 one-plus.

21 Q Okay. Now, based on your overall examinations;
22 secretor, blood typing and P.G.M. testing, do you have an
23 opinion as to whether or not the samples submitted from David
24 Sutherlin would be included or excluded from these - the
25 possible range of people who were the donors of that semen

1 sample?

2 A Upon examination of the vaginal swab and the - the
3 underpants by determining the P.G.M. enzyme as two-plus
4 one-plus, this would include him as a possible source of the
5 seminal fluid.

6 Q Can the P.G.M. typing exclude an individual from being
7 the source of the seminal fluid?

8 A Yes, it could.

9 MR. ROBINSON: I have nothing further.

10

11 CROSS EXAMINATION

12 By Mr. Gill:

13 Q All of these factors that you've been talking about in
14 the blood groupings of A-B, A, B and O, and also the
15 P.G.M.'s, these are factors that are found throughout the
16 country in everyone's fluids, right?

17 A Every individual has an A B type and a P.G.M. type.

18 Q And with respect to the blood grouping, the fact that
19 was an A-B, that means that if the donor - the
20 person that placed the sperm in has an A, an A-B,
21 or an O or an B typing, it means you won't be able to figure
22 that out, isn't that right?

23 A As far as secretor status, yes.

24 Q And that's what you mean by masking?

25 A Yes.

1 Q So that test - you can't tell anything about the donor
2 because she masks all of those blood groupings?

3 A That is correct.

4 Q Would there be any blood grouping that that wouldn't
5 mask?

6 A No.

7 Q Now, the P.G.M., you say because you find one-plus
8 two-plus from Mr. Sutherlin and you find an one-plus two-plus
9 in your samples of the swab containing the seminal fluid,
10 that means that you can include him as a possibility of the
11 donor, --

12 A That is correct.

13 Q -- right?

14 What would you look for here to determine an
15 exclusion? What could exclude somebody under that
16 circumstance?

17 A If I - if I obtained a different P.G.M., such as a
18 two-minus or a one-minus band.

19 Q Why would that exclude?

20 A Because neither individual in this case has this
21 particular P.G.M. type.

22 Q Okay. Now, I take it the scientists of literature that
23 you're familiar with have done percentage groupings involving
24 what percentage of the population has those different
25 enzymes, is that correct? The A-B - or the one-plus, the

1 two-plus, the one-plus, two-plus, and so forth?

2 A Yes.

3 Q Is that right? And with respect to a two-plus
4 one-plus, which is what Mr. Sutherlin appears to be, what
5 percentage of the population has that kind of - is it an
6 enzyme, is that what we're talking about?

7 A Yes.

8 Q What percentage?

9 A It's approximately 22 percent of the population.

10 Q So, in other words, by saying that Mr. Sutherlin is not
11 excluded, you're saying that he along with another the rest
12 of the 22 percent of the population could have been donors?

13 A That is correct.

14 MR. GILL: I have no further questions.

15 MR. ROBINSON: I have nothing further.

16 THE COURT: Thank you. You may step down.

17 (Whereupon, the witness stepped down.)

18 MR. ROBINSON: The State will call Steven Mahon to
19 the stand.

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