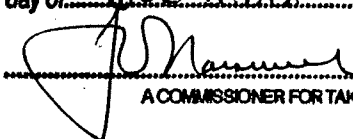


Johara@macleans.ca, 01:45 PM 2001-05-07 -0400, Some general discussion

To: johara@macleans.ca
 From: "Charles R. Smith" <crsmith@sickkids.ca>
 Subject: Some general discussion
 Cc:
 Bcc: fOut
 Attached:

is is Exhibit C referred to in the
 affidavit of The Honourable Patrick W. Dunn
 sworn before me, this 19th
 day of December 2007

 A COMMISSIONER FOR TAKING AFFIDAVITS

Monday 7 May

Hello Jane.

Thank you for the opportunity of replying to you.

I was out of the office (teaching commitments) all Thursday, and on Friday I was in meetings all day (plus the video output on my computer died, so I was out-of-touch electronically), and therefore I am only now able to read and respond to your email.

Let me provide some general information so that you can understand the nature of my work, and then if you have specific questions about any cases in the public record, I am quite happy to answer them.

Your original email stated, "I also would like to talk to you about cases you are particularly proud of."

The people who know me well and know my heart, would probably never use the word 'proud' to describe my attitude towards the cases I've handled. A better word might be 'satisfied'.

Let me give you a glimpse into the first coroners autopsy (i.e., medicolegal autopsy) I did, back in 1981, as it represented a baptism of fire that so typifies the work I do (and I presume you know that responsibility for medicolegal autopsies is only one part of my job at Sick Kids).

I was asked to autopsy an infant who had died suddenly and unexpectedly, with the coroner having made a presumptive diagnosis of sudden infant death syndrome (SIDS). However, the age was a bit wrong for SIDS, and so was the history. The autopsy revealed hemorrhage into the brain, the lungs and the abdomen, in a pattern that most pathologists would reasonably interpret as resulting from non-accidental injury (i.e., child abuse). I was uncomfortable with that conclusion, and therefore continued to push hard in terms of investigating other possibilities. In the end, we found that the child had a rare disorder of a connective tissue protein that, among other things, resulted in fragility of her blood vessels. Some time later, when more was known about the disease, we published this case in the medical literature [1] not only because it was an unusual presentation of a rare disease, but more importantly because it serves as a warning to others to rule out the possibility of this rare disorder when considering the diagnosis of non-accidental injury. (Parenthetically, I am involved with many more cases wherein I alleviate suspicion in uncertain cases by finding medical explanations than cases wherein I confirm non-accidental injury, and like my first autopsy, my medical publications reflect that [e.g., references 2 and 3].)

The satisfaction that arises from my first autopsy (and a myriad of similar cases, some of which have also resulted in publications in various medical journals) comes from being able to provide

johara@macleans.ca, 01:45 PM 2001-05-07 -0400, Some general discussion

an answer for parents who are grieving the loss of a child. To be a parent suffering from empty arms is extremely painful (something that my wife, who is a coroner, and I have come to experience). It is hard enough to lose a child, and it is a thousand-fold harder when the parents don't have an answer to the question 'Why'. And thus, my satisfaction comes from providing answers that may help alleviate some of the pain and put to rest some of the feelings of guilt and some of those torturing questions parents ask themselves, about whether they should have done things differently.

There is also some satisfaction which I derive from those occasions when our investigations in the death of one child serve to help others. For example, you may be familiar with the significance of another case, because of the attention given to the water problem in Walkerton Ontario.

The unlocking of this medical mystery began in 1983 with the autopsy of a young boy who was found dead in his crib by his parents. His autopsy findings best fit an unusual disorder called 'haemolytic-uremic syndrome' (HUS), which was first described several decades earlier, but the etiology (cause) of this disease remained enigmatic. He also had some intestinal changes which were reminiscent of another disease, hemorrhagic colitis (bloody diarrhea). About the same time as this boy died, I handled a colectomy specimen (large bowel) which was removed by a surgeon from a teenaged girl who had hemorrhagic colitis (HC). While HC was presumed to have an infective etiology, the responsible agent had not been identified. (HC subsequently came to be known by the colloquial term 'hamburger disease', because of two outbreaks that were linked to fast food restaurants in Michigan and Oregon.) During the microbiologic workup of these two cases, it became apparent that both were associated with a toxin that previously had only been identified in cattle. The toxin was called 'verotoxin' or 'verocytotoxin', and is produced by certain strains of *E. coli*, of which serotype O157:H7 is the most common. And so, the pathogenesis of both HUS and HC is based on the effect of verotoxin on certain cells in the body, especially the endothelial cells that line our blood vessels. Thus, the first descriptions in the medical literature of the pathology of verotoxin in humans [4] (and, as we continued to research it, in animals [5]) are ones in which I am one of the investigators. (Over the years since this 3-year old died, there have been several other cases wherein I have been able to link unexpected death to verotoxin.)

A sad part of this story is that I don't think that the parents of this three-year old boy ever learned of how incredibly significant were the results or the sequelae of his autopsy. Not only has the research into verotoxin opened up a myriad of possibilities of research into improving the safety of our food and water supplies, but the verotoxin molecule (actually, verotoxin is composed of two molecules that are attached together) is now being used in experimental chemotherapy for some childhood cancers.

Some of my cases have triggered research activities into forensic pathology. For instance, you are familiar with the Amber [redacted] case from Timmins. I was frustrated by the judge's apparent inability to understand the complex medical issues, and so began looking for a way to lay to rest some of the questions which that case posed. As a result, we published the largest series of fatal cases of shaken baby syndrome (SBS) in the literature [6], while identifying an autopsy finding which may be unique to this form of injury. (One of the controversies at trial was whether there was such a thing as SBS, let alone whether shaking could kill in the absence of blunt impact injury; our research answers those questions.) Several years ago, I was invited to present my special investigations in child abuse to the provincial association of family court judges. Judge Dunn (who presided over the [redacted] case) was in the audience, and he approached me later to discuss the case. We agreed that if the case had gone to trial in the late 1990's, as opposed to the

johara@macleans.ca, 01:45 PM 2001-05-07 -0400, Some general discussion

early 1990's, the uncertainties at that trial would have been obviated.

You can see that my sense of satisfaction (or perhaps pride, if I were to use your term) does not enter into the issue of the successful prosecution (or defense) of child abuse cases. Please understand, I find little satisfaction in those cases. I don't perceive that there are any winners. I do not advocate any position (i.e., I am not part of a prosecution team), and in court, my sole responsibility is to try to explain the autopsy findings and to educate a judge and/or jury so that they can put the pathology information into the context of the whole case (of which the autopsy is only one component) and thereby reach a reasonable conclusion. If there is any satisfaction in the cases which end up in court, it is when I become aware that the judge/jury understand the (often complex) pathology findings and that they are able to assess that information within the context of the strengths and weaknesses of the entire case.

It is also important for you to realize that my work is done within the context of a team or group of experts (hence my use of the word 'we' in some of my discussions above), and so my diagnosis or opinion in any given case reflects the consultations and discussions held with a variety of other experts. For that reason, when you read my C.V., you will see that all of my publications in the medical literature, such as several I've listed below, and my presentations at various national and international meetings are ones wherein my name is only one of many. Within the forensic environment, this is especially true, and so it is important when working through cases like Sharon [REDACTED], to understand what represents my work and what represents the work of others. (In this latter case, the media seems to have misunderstood the process.)

Anyway, those are just some general thoughts.

Please feel free to email me with questions about specific cases, and I will try to answer them.

Respectfully,

Charles

References:

1. Byard RW, Keeley FW, Smith CR. Type IV Ehlers-Danlos syndrome presenting as sudden infant death. *Am J Clin Pathol.* 1990; 93: 579-582.
2. Denic N, Huyer DW, Sinal SH, Lantz PE, Smith CR, Silver MM. Cockroach: the omnivorous scavenger. Potential misinterpretation of postmortem injuries. *Am J Forens Med Pathol* 1997; 18: 177-180
3. Jay V, Smith CR. Forensic pathology check sample No. FP 98-9 (FP-240) [Retinal hemorrhage]. *Forens Pathol.* 1998; 40: 111-127
4. Richardson SE, Karmali MA, Becker LE, Smith CR. The histopathology of the hemolytic uremic syndrome associated with verocytotoxin-producing *Escherichia coli* (VTEC) infections. *Hum Pathol* 1988; 19: 1102-1108.
5. Richardson SE, Rotman TA, Jay V, Smith CR, Becker LE, Petric M, Olivieri N, Karmali MA. Experimental verocytotoxemia in rabbits. *Infect Immun.* 1992; 60: 4154-4167.
6. Shannon P, Smith CR, Ang LC, Ho M, Becker LE. Axonal injury and the neuropathology of shaken baby syndrome. *Acta Neuropathologica.* 1998; 95: 625-31.