

Forensic Report



Addendum to PHR/IFP Report of June 28, 2011 on the Forensic Review of Sergei Magnitsky documentation

Reviewed by PHR Forensic Pathology Consultant Robert C. Bux, M.D.

IFP Case #: RUSSEM20101216

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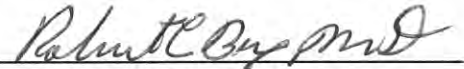
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October 16, 2012

Re: Addendum to PHR/IFP Report of June 28, 2011 on the Forensic Review
of Sergei Magnitsky documentation.

PHR/IFP Case #: RUSSEM20101216



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I am the Forensic Pathologist Consultant to Physicians for Human Rights International Forensic Program (PHR/IFP) on this case and provided the initial expert report on the death of Sergei Magnitsky to Hermitage Capital Management CEO William Browder on June 28th, 2011 with the PHR/IFP Case #RUSSEM20101216 in support of Natalia Magnitskaya's investigation into her son's in-custody death on November 16, 2009.

The Open Society Justice Initiative (OSJI), acting on behalf of Natalia Magnitskaya in her claim to the European Court of Human Rights with respect to the death of her son Sergei Magnitsky requested I provide an addendum to my previous expert opinion report based on additional documentation submitted to me by OSJI.

After a thorough review of the documentation submitted by OSJI, the present addendum provides my expert opinion in respect to (1) the diagnosis of pancreatitis, (2) the likely provenance of the physical injuries to Mr. Magnitsky's wrists, and (3) the contradictions between the assessments of Dr. Kornilov and Dr. Gaus as to the time of death of Mr. Magnitsky..

PHR/IFP has received the following additional documents from OSJI:

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- a. An extract from the medical record of the abdominal ultrasound examination conducted on Mr. Magnitsky at Matrosskaya Tishina prison by Dr. Sholokhov on 1 July 2009. (Appendix A)
- b. An extract from the medical record of the examination of Mr. Magnitsky by surgeon Galustov on 13 July 2009. (Appendix B)
- c. Expert report of Dr. Budzinsky, 30 April 2009. (Appendix C)
- d. Photographs of the physical injuries found on Mr. Magnitsky's body taken during the autopsy. (Appendix D)

1. Pancreas

The notes of the ultrasound examination of 1 July 2009, extracted in the first Medical Commission Report of 12 May 2010¹ state:

"01.07.09: Ultrasound examination of the abdominal cavity organs. Liver: even sharp contours, dimensions: right hepatic lobe – 135 cm (direct quotation), left hepatic lobe, anterior/posterior – 81 cm (direct quotation), not enlarged; the parenchymatous tissue of moderately increased echogenicity, homogeneous structure. The vascular pattern is not changed, the portal vein is 10 cm, the inferior vena cava is 16 cm (direct quotation); the common gastric duct 4 mm. The gallbladder: the shape is not changed. The walls are compacted and thickened, 5.6 mm (standard: not more than 2 mm). The contents are nonhomogenous, of increased echo-density, not less than 6 concrements, 4 to 7 mm. The pancreatic gland: even sharp contours, dimensions: 31x20x28 cm, increased. The parenchymatous tissue of increased echogenicity, homogeneous structure. The Wirsung's duct – 1 mm. Spleen: dimensions 102x48 cm (direct quotation). Conclusion: echo signs of chronic pancreatitis, calculous cholecystitis."

The medical notes of the examination by the surgeon, Dr. Galustov, on 13 July in this report, are as follows:

"13.07.09: surgeon: complaints of periodical girdle pain in the epigastrium, heaviness in the right hypochondrium. The patient has been suffering from the disease for a long time. Ultrasound examination revealed cholelithiasis. The abdomen is soft, not swollen, not painful in all the sections during

¹ Medical Commission Report by Moscow city experts, 12 May 2010

palpation. No peritoneal spasms. Excretion and diuresis – normal. Diagnosis: cholelithiasis, chronic cholecystopancreatitis. Recommended: control ultrasound examination in one month. Planned surgical treatment. No-spa, by 1 tablet 3 times per day. Cerucal, by 1 tablet 3 times per day”.

The record of the ultrasound examination from 1 July 2009² reports that Mr. Magnitsky’s pancreas measured “31 x 20 x 28 cm.” The usual size of a healthy pancreas is normally between 12 and 15 centimeters in length and less than 5 centimeters in width and depth. From the original record of the ultrasound (in Russian) the reported dimensions of the pancreas do not seem reliable. It is not possible for a pancreas to be 20 centimeters x 28 centimeters in width and depth. Therefore, the intended measurement most likely is 31 cm x 2.0 cm x 2.8 cm.

In addition, the ultrasound report notes that the gall bladder contained not less than 6 stones, which were of 4 to 7 mm each in diameter. Gallstones (cholelithiasis) are a common cause of pancreatitis. In the cases where gallstones are present such as in this case it is believed that partial or complete blockage of the ampulla of Vater or simply the safe passage of a gallstone from the common bile duct into the small bowel sets up the necessary conditions which result in pancreatitis.

In the case of Sergei Magnitsky, his pancreas is likely enlarged on the ultrasound assuming the measurements discussed above. A diagnosis of pancreatitis and gallstones from ultrasound is very specific. Nothing will cause that kind of enlargement except pancreatitis or cancer, which is much less likely. Cancer is typically more focal and does not produce diffuse enlargement on ultrasound examination. The fact that it was present in July 2009 is highly relevant and indicates that after the diagnosis was made, he was never treated with definitive medical care, which would have necessitated the removal of his gallbladder. In this case, given his medical history and more importantly the diffuse enlargement of the pancreas with multiple gallstones evident on ultrasound, the diagnosis is quite obvious and easy to make. Any practicing clinical physician would have been able to see this from the ultrasound examination and address the problem by surgically removing the gallbladder.

Chronic pancreatitis occurs when the acute pancreatitis does not completely resolve or it can result from multiple episodes of acute pancreatitis, which over time can result in a chronic pancreatitis.

² An extract from the medical record of the abdominal ultrasound examination conducted on Mr. Magnitsky at Matrosskaya Tishina prison by Dr. Sholokhov on 1 July 2009.

Pancreatitis, whether acute or chronic, typically produces severe, to excruciating, unrelenting abdominal pain and frequently bouts of vomiting. If the condition is not reversed, pancreatitis can result in tachycardia (a fast heart beat), fever and low blood pressure. If this condition is left untreated, death can occur. The correct treatment would be initially put the gastrointestinal system at rest, include intravenous therapy and as much pain medication as necessary with periodic laboratory studies to monitor the progress of the disease. In a case where gallstones are present, such as in this case, surgical removal of the gallbladder (cholecystectomy) would be performed when the medical condition has stabilized and in most cases, the patient would be cured.

Given that the pancreatitis was most likely caused by the gallstones, it would have been a relatively simple surgical operation to remove the gallstones, which would have led to a swift recovery. Such a surgical procedure has a very low risk of serious complications or death.

Left untreated, acute pancreatitis may continue to worsen or lead to chronic pancreatitis and can lead to infection, including peritonitis (an infection of the abdominal cavity), septic shock (hypotension, which can lead to cardiovascular collapse), and ultimately death.

Septic shock can result from pancreatitis and/or peritonitis and may be associated with metabolic derangements including metabolic acidosis and encephalopathy. This medical condition is manifested by changes in behavior and mental status including agitation, confusion, lethargy, coma, and death. Psychiatrists are trained to differentiate between behavioral changes caused by mental illness and behavioral changes caused by an underlying medical condition such as metabolic acidosis and encephalopathy. The correct treatment for septic shock arising from untreated pancreatitis and/or peritonitis requires immediate, aggressive resuscitation with fluids and electrolytes especially calcium, antibiotics, if indicated, and intense supportive care which necessitates treatment in an intensive care unit until the patient can be stabilized. Left untreated, a patient suffering from such symptoms will go into irreversible hypovolemic shock and die. Consequently, the decision by the authorities at Matrosskaya Tishina prison to physically restrain Mr. Magnitsky, keep him in a cell for two hours, while denying standard medical treatment, resulted in his death.

From the Forensic Medical Examination Commission³ report of the autopsy conducted after Mr. Magnitsky's death, the pancreas and gall bladder are described thus:

"The pancreatic gland is extraperitoneal, in the shape of a dense elastic band, and the dimensions are 20.0x5.0x5.5 cm; the cut surface shows well-defined large and average lobes, the colour is greyish with a yellowish shade, without haemorrhages."

"The gall bladder contains approximately 10 ml of greenish brown bile. The mucosa of the gall bladder is whitish grey, slightly indurated and thickened up to 0.4 cm, damp, smoothed. The cavity of the gall bladder contains multiple yellowish green stony lumps with rough surfaces and dimensions from 0.5x0.5 to 1.0x1.0 cm."

From this extract it is clear that at the time of his death, Mr. Magnitsky was still suffering from pancreatitis, as his pancreas was still enlarged. The diagnosis made by the doctors who examined him on 16 November 2009 that he was suffering from active pancreatitis was correct.

Given the specific measurements now provided as to Mr. Magnitsky's pancreas, and further to my original report, Mr. Magnitsky was suffering from bouts of acute pancreatitis and / or untreated chronic pancreatitis at the time of his death, which was provoked by his untreated cholelithiasis (gallstones), which had been present at the time of his abdominal ultrasound some 5 months earlier. The description of erratic behavior would appear to be the result of metabolic disturbances associated with pancreatitis, a direct consequence of the untreated pancreatitis caused by cholelithiasis. In the normal course of events, once septic shock has set in, the mortality rate is extremely high. Septic shock is a grave condition that is easily recognized by any treating physician. If aggressive treatment and resuscitative efforts are not immediately instituted, death can be expected to occur within a few hours.

It is not clear why the autopsy does not conclude that he had pancreatitis. While the autopsy acknowledged the increased size of the pancreas, it did not conclude that there was inflammation, or necrosis, or calcification, even after microscopic review. The single slide viewed microscopically of the pancreas is in contradistinction to his medical history, physical examination, clinical course while incarcerated, and more importantly the ultrasound findings of an abnormal pancreas and gallbladder. Given the ultrasound findings, and the enlarged size of the pancreas both in July and

³ Medical Commission Report by Moscow city experts, 12 May 2010

at the time of the autopsy, either he had severe pancreatitis, or an ascending cholangitis (infection of the bile ducts), with or without hepatitis. Standard forensic pathology practice would dictate microscopic examination of the bile duct, pancreatic duct and gallbladder. There is no evidence in this case that this diagnostic microscopic examination was done. This failure to perform simple, post-mortem diagnostic tests may be due to error, prosecutor inexperience or incompetence, or an attempt to cover up the true cause of death.

2. Wrist Injuries

Since the first report, I have received additional photographs of the injuries to Mr. Magnitsky's wrists taken during the autopsy. They show discrete, patterned injuries on his wrists consistent with the application of handcuffs when Mr. Magnitsky was still alive.

These injuries are described in the autopsy report⁴ as a bloody contusion on the right wrist 0.7 cm in width along the whole length, and as a bloody contusion on the left wrist from 0.5 to 1.0 cm in width, with multiple stripe-like abrasions. The report records that both injuries were inflicted "*as a result of a squeezing and slip action of a blunt hard object (objects) with a limited traumatizing surface shortly before death.*" While the prosecutor of the autopsy opines that this occurred shortly before death, the photographic images of the wrists and the written description of the injuries are inconsistent with this statement. These injuries more likely occurred several hours prior to death. Standard forensic practice dictates the use of microscopic examination of the injury to determine ante-mortem time interval. There is no evidence that microscopic examination of the wrist injuries was done in this case.

In my experience, such injuries are more likely caused by handcuff application. These injuries could be incurred by repetitive jerking of the wrists by staff and / or by Mr. Magnitsky while in a confused or agitated state given his probable underlying pancreatic metabolic derangement and encephalopathy. Such injuries could cause considerable pain and or numbness to the hands. It is not be possible for such marks to be left through the ordinary use of handcuffs applied by trained personnel. It is my opinion that the severity of the injuries documented in the photographs and described in the autopsy report is inconsistent with accidental misapplication of the handcuffs by trained staff.

⁴ Autopsy Report, 28 Dec 09

3. Time of death

There is an inconsistency in the evidence of the psychiatric emergency team and Dr. Gaus. The psychiatric team stated in the Forensic Medical Examination Commission report⁵ that they arrived in the cell at approximately 9.20 pm to find that Mr. Magnitsky was already dead. Dr Kornilov states:

“On entering the cell I saw the patient sitting on the floor; as far as I remember he was half-dressed, that is, without a shirt but in trousers, leaned back against the plank bed. As far as I remember there were handcuffs in the cell. I don’t remember if the handcuffs were fixed round the corpse’s hands or to the bed but, judging by the general picture, the handcuffs had been taken off but recently; Magnitsky must have been cuffed by his left hand because it was bluish. The head of the corpse was bent towards the left shoulder, the eyes were open, with wide pupils, there was no lid reflex: the pupils did not react to light and pain, I checked it personally. There was no pulse, no heart beating, no breath and no arterial tension. The skin was pale, already cool, which evidences that the biological death had come more than fifteen (15) minutes before the examination. I also made a “cat-eye syndrome” test: I pressed on the eye pupil of the corpse, the eye pupil shrank without resuming the original form, which also evidences that the biological death had come at least fifteen (15) minutes before. There was no postmortem lividity on the body, at least, visually. Having ascertained the facts, I reported to the first-aid station and the medical officers of the pretrial detention center who were present that the patient had died before arrival of the first-aid team. We made sure that no intensive care was needed and left the pretrial detention center. ... I entered the pretrial detention center with the attendant S Morozov.”

However, Dr. Gaus, of Matrosskaya Tishina prison, stated in evidence that she was called to the cell at 9.20 and told that Magnitsky felt bad. She went into cell No. 4 and found Magnitsky lying on the floor. She did not see Dr. Markilov and his colleague. In her evidence of December 2009 she stated: *“I tried to feel the pulse and found it only on the carotid artery, there was no pulse on radial arteries. I ordered to immediately to take the patient to the Intensive Care Ward”* which she estimated took about five minutes. She stated that in the intensive care ward, together with duty doctor Nakilov she attempted intensive care, through *“closed-chest massage, artificial lung bag-valve-mask ventilation, administration of adrenaline and*

⁵ Medical Commission Report by Moscow city experts, 12 May 2010

atropine... the intensive care had no effect and at 21.50 the clinical death was pronounced. A death certificate was drawn up."

The test conducted by D.r Kornilov was not standard, but would have been a good indication that Mr. Magnitsky was dead. The cornea of the eye is particularly sensitive. Lack of corneal reflex to an irritation demonstrates that the patient is at least deeply comatose. Lack of pupillary reaction to light is indicative of death. If the patient is not breathing and has no heart sounds, he is dead. In this case, the clinical findings of cool skin, absent pupillary and corneal reflexes, absent pulse and respiration are indicative of death.

Given that evidence, it is not credible that Dr. Gaus would have found a carotid pulse. A carotid pulse cannot occur without a beating heart. It is possible she may have felt her own pulse, a mistake occasionally seen amongst more junior doctors.