QUEENSLAND COURTS

OFFICE OF THE STATE CORONER

Our Reference: 2009/376
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The Chief Executive Officer
General Practice Queensland
GPO Box 2456
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Dear Sir/Madam,

I am the Brisbane Coroner investigating the circumstances of the death of a 66-year-old woman in June 2009. The facts of the case are set out below and have been de-identified.

The patient had presented to the Emergency Department of a major tertiary hospital with abdominal pain, went to the bathroom and collapsed. She quickly went into an arrest and could not be revived. Her death was reported to the coroner by the hospital because they were uncertain as to the underlying cause of her death.

Information obtained by the police indicated that the patient had been seeing her family doctor for a number of weeks for a sore lower left leg due to varicose veins.

The coroner requested a report and a copy of the medical records from her general practitioner and ordered an autopsy.

The report from her general practitioner noted that she had first presented to the practice on 28 May 2009 complaining of a tender area in the left lower leg. The first reviewing doctor felt the symptoms were consistent with thrombophlebitis and commenced Ibilex (used for infection to soft skin) and hirudoid ointment. A further review noted that the small area of thrombophlebitis was resolving and there were no signs of deep venous thrombosis. A further review was made for a week later with a repeat dose of Ibilex.

On 11 June 2009 the patient was reviewed by another GP in the same practice who agreed with the diagnosis that she was suffering from superficial thrombophlebitis. In order to exclude the presence of deep venous thrombosis an urgent ultrasound was ordered and it was recommended that she commence aspirin and begin to wear a properly fitted stocking on her left leg.

A further review on 15 June 2009 indicated that there was inflammation around the clotted vein on the back of the leg which still appeared to be superficial thrombophlebitis. The ultrasound report of 11 June 2009 confirmed superficial thrombophlebitis in the long saphenous vein involving almost its entire length

with no deep venous thrombosis seen. The GP recommended she commence on penicillin in view of the uncertainty of the bacterial infection in addition to the inflammation. He was shocked when he heard that she had died the next day.

The autopsy examination found extensive thrombo-emboli in the pulmonary arteries. The quantity was extensive and would not have been compatible with life.

The source of the thrombo-emboli was sought. No thrombo-emboli were detected in the deep veins of the calf muscles on both sides. Thrombus was present in the left long saphenous vein, a superficial vein of the legs in keeping with the previous diagnosis of thrombophlebitis.

Another finding was mild superficial gastric erosions. The most common cause was due to adverse effects of analgesic particularly the non-steriodal type and aspirin would account for that finding.

The pathologist noted that death was caused by pulmonary thrombi-embolism. The most common cause of pulmonary thrombi-embolism is from deep vein thrombosis of the legs. In this case no thrombi were detected in the deep veins of both legs. Thrombus was present in the superficial vein of the left leg.

He noted that superficial thrombophlebitis is not usually associated with pulmonary thrombi-embolism. However superficial thrombophlebitis has been known to be associated with deep vein thrombosis which is of a higher risk because of pulmonary thrombi-embolism. However the ultrasound performed on 11 June showed no evidence of deep vein thrombosis.

The pathologist considered that there may be two possible explanations. The first was that the thrombosis of the deep veins had formed after the ultrasound scan and which have subsequently embolised to cause death. An explanation for not finding any deep vein thrombosis is that the thrombus might have embolised completely.

The second alternate explanation was that the source was from the superficial vein itself. There had been studies reported in the medical literature which reported higher rates of pulmonary thrombi-embolism in patients with long saphenous vein thrombosis. It was noted that even though the rate is higher the rate of occurrence is still considered infrequent.

The pathologist noted that superficial thrombophlebitis is not usually associated with pulmonary embolism and is therefore not usually treated with thrombolytics. It was also noted that the GP had taken appropriate steps to rule out any extension of the thrombus to the deep veins.

The Coroner had the autopsy report and report and medical file from the general practitioner reviewed by a medical officer with the Clinical Forensic Medicine Unit. The two medical articles referred to in the autopsy report were reviewed and each of the articles make the point that superficial thrombophlebitis has always been considered a relatively benign condition. It is clear that deep venous thrombosis can coexist with superficial thrombophlebitis especially if the thrombophlebitis extends above the knee. However if DVT is excluded on diagnostic ultrasound then the thrombophlebitis can be treated conservatively. It was noted that antibiotics do not make any difference in thrombophlebitis. He considered that the general practitioner would have been greatly reassured by

the negative ultrasound scan and appeared to have provided appropriate medical care.

It was noted that the advice given for emergency medicine on the Queensland Health website noted as follows: -- "Although thrombophlebitis of the superficial leg veins uncommonly evolves into a thrombo embolic event, many patients with clinically suspected superficial thrombophlebitis have a synchronous DVT. Patients with clot in the greater saphenous veins which extends above the knee are at risk for progression to DVT via the saphenous-femoral junction and should be considered for anticoagulation. When DVT has been excluded, superficial thrombophlebitis should be treated symptomatically with non-sterioidal anti-inflammatory drugs, heat, and graded compression stockings. Increased ambulation and elevation of the extremity above the level of the heart while at rest helps to decrease venous stasis. Routine anticoagulation is not indicated for superficial thrombophlebitis."

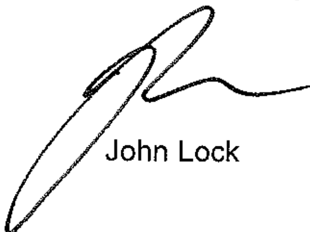
The patient's death occurred as a result of a relatively uncommon complication of what is considered to be usually a benign condition which is treated conservatively. The medical literature which was referred to by the pathologist noted that although thrombophlebitis is often perceived as benign it can coexist and progress to DVT and even give rise to pulmonary embolism. However there had been a limited number of randomised studies which did not allow for strong recommendations as to treatment to be given. The second article concluded that in a small series of patients the study strongly suggested that finding suggestive of pulmonary embolism was to be expected in a surprisingly high number of patients with thrombophlebitis. The author recommended that future studies were warranted to better explore the risk for DVT, pulmonary embolism or both in patients with superficial thrombophlebitis of the thigh and to evaluate the benefit to risk ratio of proper anticoagulant therapy in this disease.

As the cause of death has been established and was due to natural causes it was considered that no further investigation or inquest was necessary. The treatment programme recommended by her general practitioner was in accordance with reasonable medical management at that time. There have been limited studies in the medical literature which suggests that further studies and consideration needs to be given to the formation of pulmonary embolism in conditions such as thrombophlebitis.

I have however determined that it would be appropriate to refer the facts of this case to such professional bodies as the Australian Medical Association and General Practice Queensland for consideration of highlighting the potential problems in such cases and for further clinical education or research. A copy of the two articles referred to are enclosed.

Please do not hesitate to contact this office should you have any further queries or require further information.

Yours sincerely,



John Lock