

接受人工膝關節及髖關節置換的病人深部靜脈栓塞預防之抗血栓藥物使用研究
Study of Antithrombotic Agents in Preventing Venous Thromboembolism within
Total Hip and Total Knee Replacement Surgery

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Introduction: 人工髖關節及膝關節置換術後經常會發生靜脈血栓事件，一個亞洲族群的大型流行病學研究，針對接受人工膝關節及髖關節置換的亞洲病患，在未經靜脈血栓預防的情況下，深部靜脈血栓的發生率為 41%，另一個在美國的大型研究也指出有症狀的深部靜脈血栓機率約為 0.7~0.9%，導致嚴重高死亡率肺栓塞心臟病機率則為 0.3%，若以抗血栓藥物介入在人工髖關節及膝關節置換術則可降低近 50%靜脈血栓發生，本研究在以台灣健保資料庫抗血栓藥物處方及新型的口服抗凝血藥物 Rivaroxaban 用量來探討台灣骨科醫師在人工髖關節及膝關節置換術後深部靜脈血栓預防抗血栓藥物處方的現況。

Materials and Methods: 本研究為回溯性的資料分析，研究執行期間為 2007 年至 2013 年，資料來源分為二部份；一.2007 年至 2011 年健保資料庫醫院骨科人工髖關節、膝關節置換術(包括髖關節再置換術，膝關節再置換術，部份髖關節置換術，全髖關節置換術，全膝關節置換術)及深部靜脈栓塞及急性肺栓塞性心臟病等其他靜脈栓塞症狀的抗血栓藥物處方數量、金額、看診人次 二.2010 年至 2013 年新型的口服抗凝血藥物 Rivaroxaban 用量。

Results: 從 2007 年至 2011 年健保資料庫抗血栓藥物的金額、數量、看診人次及 2010 年至 2013 年新型的口服抗凝血藥物 Rivaroxaban 用量發現骨科醫師在人工關節置換術的抗血栓藥物處方都有增加的趨勢，不論是醫學中心、區域醫院及地區醫院各層級醫院都有增加。進一步針對骨科醫師在靜脈血栓症即深部靜脈栓塞及急性肺栓塞性心臟病的抗血栓藥物處方(Vitamin K Antagonists, Heparins)金額則有下降趨勢，尤其是醫學中心骨科的深部靜脈栓塞及深部靜脈栓塞合併急性肺栓塞性心臟病抗血栓藥物處方的看診人次明顯下降。

Discussion: 1. 從 2007 年至 2011 年健保資料庫分析發現人工關節置換術的病人並無增加，醫院層級主要集中在醫學中心及區域醫院均為 37%，地區醫院(26%)，地理區域依序為北區(45%)，南區(34%)，中區(18%)及花東區(3%)，但抗血栓藥物處方的金額、數量、看診人次都有逐年上升的趨勢，其中以 heparins 的金額最高。2. 2010 上市的新型口服抗凝血藥物 Rivaroxaban 不論是醫學中心、區域醫院及地區醫院各層級醫院都有逐年增加，但由於沒有特定的解毒劑可以使用且價格昂貴，仍需更多的臨床資料來證實療效及安全性。

Conclusion: 隨著抗血栓藥物處方的逐年上升，骨科深部靜脈栓塞及合併急性肺栓塞性心臟病的病人似乎有下降趨勢，選擇高風險病人處方抗血栓藥物才符合全民健保經濟效益。

Kirschner-Wire Guided Technique for Inserting a Second Needle into Inadequately
Filled Vertebrae in Vertebroplasty

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Introduction: Percutaneous vertebroplasty (PV) is usually effective for patients with painful osteoporotic vertebral compression fractures (VCFs). The absence or inadequate filling of cement in the fractured vertebrae can cause unsatisfactory results. Repeated needle insertion can reduce the incidence of re-collapse at the cemented vertebrae. However, when inserting the second needle as the usual method, it takes the same time and radiation exposure as the first needle. Occasionally, the image of pedicle is blocked by cement and may not be visible in the anteroposterior (AP) view following cement filling, making the insertion of a second needle more difficult. We report a Kirschner-wire (K-wire) guided technique for inserting a second needle during vertebroplasty that makes the procedure simple, effective, and most important, reduces radiation exposure.

Materials and Methods: Six adult patients (5 women, 2 men; mean age: 76.8 year) treated for painful osteoporotic compression fractures by vertebroplasty had inadequate cement filling in the treated vertebrae that required the insertion of a second needle. The stylus of the first needle was inserted into the trocar to push the cement out of the trocar. The stylus was removed, a small diameter K-wire was inserted into the trocar, and the trocar was then removed. A second (new) trocar was inserted into the vertebral body following the track of the K-wire. When the new trocar reached the posterior 1/4 of the vertebral body, the K-wire was removed, the stylus was inserted, and the new needle was advanced to the anterior third of the vertebra. Cement was then injected into the new area until the filling was adequate.

Results: The immediate post-vertebroplasty anterior vertebral height was 23.31 ± 1.95 mm, changed to 22.20 ± 3.72 mm at final follow-up. The visual analog scale decreased from a mean of 8.4 before vertebroplasty to 1.6 at final follow-up. The follow-up duration ranged from 15 to 32 months (mean 16.5 months). There was no case of re-collapse of the cemented vertebrae, and no procedure-related complications.

Discussion: This report suggests that Kirschner-wire guided technique for inserting a second needle during vertebroplasty could make the procedure simple, effective, and reduce radiation exposure.