急性缺血中風病患周邊血液中程式細胞凋亡因子之研究

陳文源、李泰林 ; 林重宏

E-mail: 9806545@mail.dyu.edu.tw

摘 要

缺血性中風是由於大腦的正常血液受到中斷而造成一種神經功能障礙，會造成對神經細胞和膠細胞營養物與氧氣的供給停止，最後致使細胞受傷和死亡。在動物模式中，程式細胞凋亡已被證明在缺血性中風中可能扮演一個重要的角色，而在人類中風的臨床意義中仍未完全清楚。本研究在取得受試者知情同意書以後，收集已進行核磁共振攝影檢查的中風病患的周邊血液，萃取其血漿DNA，以半定量PCR定量血漿DNA、分析程式細胞凋亡相關蛋白質的表現及活性。結果顯示7名中風病患中，有5名病患其為大腦灰質區域梗塞，其餘2名患者為大腦白質區域梗塞。我們進一步對這7名中風病患及4名作為控制組的非中風病患的周邊血液，共16個樣本（有些病患間隔不同天數抽血兩次至三次），以半定量PCR定量血漿DNA及分析與程式細胞凋亡相關蛋白質的表現及活性。根據大腦灰質與白質梗塞可分群為試驗組I、試驗組II及對照組，將樣本分為三組。以Kruskal-Wallis單因子變異數分析三組中membrane TNF-α(mTNF-α)、soluble TNF-α(sTNF-α)及mTNF-α+sTNF-α量，顯示其組間有顯著性差異(P＜0.05)。以Mann Whitney U檢定進一步分析sTNF-α的量於試驗組組間有顯著性差異(P＜0.05)，即樣本周邊血液為大腦灰質區域梗塞者，其sTNF-α含量較高。以Sperman等級相關係數分析樣本Caspases 3/7活性及sTNF-α含量，可得0.785的相關性，而Caspases 3/7活性及mTNF-α含量的相關性為-0.232。因為sTNF-α對TNF-R1受器有較大的親和力，且TNF-R1受器具有促細胞凋亡的現象，而Caspase 3/7的活性與細胞凋亡有關。本研究結果顯示，在急性缺血性中風病患的周邊血液中可偵測到細胞凋亡因子而且有正相關，而且與大腦灰質(神經元)大區域的梗塞有關。

關鍵詞 : 急性缺血中風、周邊血液、程式細胞凋亡、大腦梗塞、腫瘤壞死因子、跨膜腫瘤壞死因子、可溶性腫瘤壞死因子

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