• 系統編號	RB8604-1111
• 計畫中文名稱	染料製造廠員工膀胱癌早期偵測與死因分析
• 計畫英文名稱	Detection of Early Bladder Cancer and Mortality Analysis of Benzidine-Based Dye Workers.
• 主管機關	行政院國家科學委員會
• 計畫編號	NSC83-0412-B038-018
• 執行機構	台北醫學院公共衛生學科
• 本期期間	8302 ~ 8401
• 報告頁數	0 頁
• 使用語言	中文
• 研究人員	葉錦瑩 Yeh, Ching-Yin
• 中文關鍵字	聯苯胺；膀胱癌；死亡率分析
• 英文關鍵字	Benzidine；Bladder cancer；Mortality analysis
• 中文摘要	Benzidine、Benzidine-derivatives 及 Benzidine-based dyes 會導致膀胱癌已是不爭的事實,其潛伏期最短 6 個月,最長可達 48 年,許多國家在已禁止製造該類染料之後,膀胱癌患者還是會持續出現。在台灣 Benzidine 類是屬列管的毒性物質,但根據染料製造業在台灣的發展歷史來看,以往的染料製造業者對聯苯胺的暴露期間已有 30 年以上,暴露人口近千人,相信膀胱癌患者的陸續出現應可預期,若能及早診斷及早治療,應是業者之福。 本研究爲探討台灣染料製造業者在長期暴露下之健康狀況,特針對該危險群作個人基本資料、暴露史、疾病史、家屬史和自覺症狀等問卷之訪視,以及泌尿、呼吸、皮膚、肝臟和造血等系統機能之健康檢查,即測定肺活量、AST、ALT、Hb 等值,泌尿系統則以細胞學診斷及流式細胞分析儀法篩選膀胱癌之早期患者,期能改善預後及延長存活時間。 本研究初步結果顯示在 95 位高暴露員工之中,有兩位之尿液細胞中可檢出活性較強之過渡性細胞,有兩位可檢出非典型性癌細胞,將作進一步鑑定;流式細胞儀的檢查結果則顯示業者之細胞週期中 G/sub 0/G/sub 1/相的百分比顯著低於非業者,而 S 相之百分比則較高,顯示業者膀胱上皮細胞活性可能高於一般人,值得加強追蹤。本研究藉此並建立業者健康資料檔案,以提供日後病因及死因分析之用。類似聯苯胺的職業暴露,有其特定之場合,應可事先預防,本研究之結果將提供業者參考,俾能促其逐漸作到減毒減廢作業,以達汙染預防之理想。
• 英文摘要	Both brief and prolonged exposure to benzidine, benzidine-derivatives and benzidine-based dyes have been associated with the development of bladder cancer of the workers. Based on the considerable evidence in human as well as in experimental animals, benzidine-based dyes pose a hazard to the health of the workers and the wildspread users. The latent period for bladder cancer induced by benzidine varies from 6 months to 48 years. In some countries, new patients with occupational urothelial cancer are still diagnosed after benzidine dye manufacturing have been prohibited for a long time. In Taiwan, the synthetic dye industry has grown for about 30 years, so, it can be predicted that the bladder cancer would be found subsequently in benzidine workers in the near future.

Early detection of bladder cancer and prompt treatment should still be the important thing. In order to evaluate the health effect of benzidine workers who have been exposed for long periods of time, a study was made to take the workers in a benzidine-based dye manufactory as samples to answer a standardized questionnaire of the designated items including the base line information, exposure history, disease history and symptoms assessment, and clinical signs was also observed by physicians. The cytological examination was used as screening tool and flow cytometry was used to assess deoxyribonucleic acid (DNA) content of cell nuclei in suspected cases. It was found that two urine samples were reactive transitional cells present and two urine samples were degenerating atypical malignant cells present. By flow cytometry, it was shown that the S phase percentages of cell cycle in urine cell or workers were significantly higher than those of nonworkers. The further diagnosis and identification would be made. The benzidine-induced bladder cancer is especially related to occupational exposure. If manufacturing and handling of these carcinogenic materials were substituted or prohibited, the bladder cancer in this high risk group will be prevented. Results of this study will provide the concern about pollution prevention of the industries.