

virus infection can adversely affect the outcome of tolerance-based allotransplantation and that the mechanism by which viral infection abrogates tolerance induction based on DST and anti-CD154 mAb is in part due to inflammation.

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### The increased prevalence of hypothyroidism in women newly diagnosed with breast carcinoma at St. Mary's Hospital\*

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**Purpose:** Many studies have evaluated the association between breast carcinoma (BC) and thyroid diseases, but the nature of this relationship remains unclear. An increased incidence of breast cancer in women treated with thyroid supplements has also been reported. The purpose of this preliminary study is to evaluate the prevalence of hypothyroidism in women diagnosed with BC in our hospital during the last 2 years and compare the findings with the published data to date.

**Methods:** The clinical records of patients diagnosed with BC over the 2 years 1997 and 1998 were reviewed. Epidemiologic data and family history of BC were determined. Tumor status was categorized into in situ and invasive groups and into lobular, ductal, and mucinous subgroups. The presence of estrogen and progesterone receptors was noted. The prevalence of hypothyroidism was compared with that reported in the literature.

**Results:** Over the 2-year period, 141 women were diagnosed and treated for BC. The prevalence of hypothyroidism in this group was 12.8%. These results were compared with available studies in the United States and Connecticut that document the prevalence of hypothyroidism in a general population of women ranging from 0.52% to 4.4%.

**Summary:** The prevalence of hypothyroidism in women recently diagnosed with BC at St. Mary's Hospital was higher than that reported in the literature for a general population of women.

**Conclusion:** Overall prevalence of hypothyroidism in women newly diagnosed with BC is greater than that in the general population. These results emphasize the potential usefulness of screening for hypothyroidism in women in this group, and suggest a possible relationship between these 2 diseases that merits further investigation.

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### Laparoscopic versus open appendectomy

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**Purpose:** Although the value of laparoscopy has been demonstrated in adults with appendicitis, its role in pediatric surgery is still controversial. We hypothesize that laparoscopy is helpful in the management of the pediatric patient with appendicitis.

**Methods:** This is a retrospective review of 132 consecutive patients under the age of 18 operated on for acute appendicitis between January 1998 and December 1998 at a tertiary teaching hospital. We analyzed the data using *t* test and  $\chi^2$  analysis.

**Results:** Of the 132 appendectomies, 32 were ruptured. Of these, 10 were performed laparoscopically. The mean lengths of stay were 3.9 days in the laparoscopic group and 6 days in the open group, a statistically significant difference ( $p < 0.05$ ). The mean operative times were 90 minutes in the laparoscopic group and 81 minutes in the open group, not a statistically significant difference. Two wound infections occurred in the laparoscopic group and 3 in the open group. Out of the 100 patients with nonruptured appendicitis, 41 appendectomies were performed laparoscopically. The mean lengths of stay were 1.7 days in the laparoscopic group and 2.3 days in the open group, a statistically significant difference ( $p < 0.05$ ). There was no difference in mean operative time (73 minutes) in the laparoscopic and open groups. Three wound infections occurred in the laparoscopic group and 2 in the open group.

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**Conclusions:** The above data support the use of laparoscopy in the management of appendicitis. Length of stay is significantly decreased in the laparoscopic group with both simple and ruptured appendicitis. Laparoscopy does not increase the complication rate. Laparoscopy is a safe and effective method for treating patients with simple and ruptured appendicitis.

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### Discharge after cardiac surgery: where do patients go and why?

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**Purpose:** Postoperative clinical protocols are used in contemporary surgery for both optimization of care and cost containment. Such protocols are also used in cardiac surgery patients. As a result, patients are often discharged to intermediate care facilities. In addition, a number of patients requires readmission. We attempted to identify the frequency and predictors of discharge to intermediate care facilities and readmission.

**Methods:** The cases of 500 consecutive adult patients (72% male, mean age  $65.7 \pm 11.9$  years) undergoing cardiac surgery with a standard "fast track" protocol were reviewed. Follow-up for 30 days was complete. One hundred ten pre-, intra-, and postoperative variables were examined. Univariate predictors of discharge to intermediate care facilities and readmission were determined by Fisher exact test. Multivariate predictors were determined using forward and backward stepwise logistic regression.

**Results:** Thirty-day mortality was 2.6%. The readmission rate was 13%. Of 486 survivors, 166 (34%) were discharged to intermediate care facilities. Mean lengths of stay were  $7.7 \pm 1.2$  days for all patients,  $9.9 \pm 0.9$  days for the intermediate care facility patients, and  $9.1 \pm 2.3$  days for the readmission patients. Univariate predictors for discharge to intermediate care facility were age, female sex, hypertension, insulin-dependent diabetes mellitus (IDDM), unstable angina, congestive heart failure, valve surgery, renal failure, reintubation, time to extubation, and New York Heart Association class. Independent predictors using logistic regression were increasing age, female sex, IDDM, time to extubation, and increased length of stay. Of the 136 patients discharged to intermediate care facilities, 110 (80%) went to short-term facilities, 17 (12.5%) went to long-term facilities, and 6 (4.4%) to vent units. Most patients (80.8%) discharged to an intermediate care facility required physical rehabilitation. We were unable to identify predictors for readmission, even though IDDM approached statistical significance.

**Conclusions:** A significant proportion of patients require additional care in an intermediate care facility upon discharge after fast track cardiac surgery. It is important to identify these patients so as to improve discharge planning and to offer alternate clinical pathways during their hospital stay. An insight into the services provided at these intermediate care facilities is also offered in this study.

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### In vitro study of vascular endothelial growth factor for bioengineering improved prosthetic vascular grafts

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**Purpose:** The propensity for small-diameter prosthetic vascular grafts to thrombose and subsequently fail has served as the driving force to develop chemically or biologically modified materials with the hope of improving patency rates. Pseudointima formation and anastomotic intimal hyperplasia continue to be leading mechanisms of graft failure. With this in mind, various compounds have been sought to stimulate endothelial cell growth and migration onto prosthetic surfaces, attempting to alter pseudointima formation and subsequent healing. This study evaluated the chemotactic properties of vascular endothelial growth factor (VEGF) and its function chemically bound to bovine serum albumin. Retained function in a bound state offers the possibility of designing biologically active prosthetic grafts with superior patency rates.

**Materials and Methods:** Bovine aortic endothelial cells were thawed and grown in 10% fetal bovine serum (FBS) low-glucose Dulbecco's modified Eagle's medium. Cell solution ( $10^6$  cells/ml) was pipetted into a Boyden cham-