

SELECTED ABSTRACT

Sign of the Zodiac as a Predictor of Survival for Recipients of an Allogeneic Stem Cell Transplant for Chronic Myeloid Leukaemia (CML): An Artificial Association

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Abstract

Background

Astrological or Zodiac (star) sign has been shown to be a statistically significant factor in the outcome of a variety of diseases, conditions, and phenomena.

Methods

To investigate its relevance in the context of a stem cell transplant (SCT), we examined its influence in chronic myeloid leukaemia, a disease with well-established prognostic factors. Data were collected on 626 patients who received a first myeloablative allogeneic SCT between 1981 and 2006. Star sign was determined for each patient.

Results

Univariate analyses comparing all 12 individual star signs showed considerable variation of 5-year probabilities of survival, 63% for Arians, to 45% for Aquarians, but without significance ($P = .65$). However, it was possible to pool together star signs likely to provide dichotomous results. Thus, grouping together Aries, Taurus, Gemini, Leo, Scorpio, and Capricorn (group A; $n = 317$) versus others (group B; $n = 309$) resulted in a highly significant difference (58% vs 48%; $P = .007$). When adjusted for known prognostic factors in a multivariate analysis, group B was associated with an increased risk of mortality when compared with group A (relative risk [RR], 1.37; $P = .005$).

Conclusion

In this study, we show that, providing adequate care is taken, a significant relationship between patient star sign and survival post SCT for CML can be observed. This is, however, a completely erroneous result, and is based on the pooling together of observations to artificially create a statistically significant result. Statistical analyses should thus be carried out on a priori hypotheses and not to find a meaningful or significant result.

[http://www.transplantation-proceedings.org/article/S0041-1345\(10\)01081-X/fulltext](http://www.transplantation-proceedings.org/article/S0041-1345(10)01081-X/fulltext)

Commentary

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This study shows the how the data can be manipulated to obtain a statistical significance and the. Individual variable analysis (i.e. considering each zodiac sign as a categorical variable, hence a variable with 12 categories) showed no significant association between zodiac sign and 5-year survival probabilities. However, artificially categorizing them into two categories (Group A - Aries, Taurus, Gemini, Leo, Scorpio, and Capricorn vs rest considering as Group B) showed significant survival difference between the two groups. Further, the association remains significant even after adjusting for other prognostic factors where Group B showed poor survival probability. Therefore, authors highlight the importance of having a priori hypothesis before the statistical analysis and not to find meaningful or significant results during the analysis.

Anticoagulants (extended duration) for prevention of venous thromboembolism following total hip or knee replacement or hip fracture repair

Rachel Forster, Marlene Stewart

Cochrane Systematic Reviews

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(Adapted and quoted from Cochrane review Summary)

Background

It is common practice to administer prophylaxis using low-molecular-weight heparin (LMWH) or unfractionated heparin (UFH) until discharge from hospital, usually seven to 14 days after surgery. International guidelines recommend extending thromboprophylaxis for up to 35 days following major orthopaedic surgery but the recommendation is weak due to moderate quality evidence.

Objectives

To assess the effects of extended-duration anticoagulant thromboprophylaxis for the prevention of venous thromboembolism (VTE) in people undergoing elective hip or knee replacement surgery, or hip fracture repair.

Search methods

The Cochrane Vascular Information Specialist searched the Specialised Register (last searched May 2015) and CENTRAL (2015, Issue 4). Clinical trials databases were searched for on going or unpublished studies.

Selection criteria

“Randomised controlled trials assessing extended-duration thromboprophylaxis (five to seven weeks) using accepted

prophylactic doses of LMWH, UFH, vitamin K antagonists (VKA) or direct oral anticoagulants (DOAC) compared with short-duration thromboprophylaxis (seven to 14 days) followed by placebo, no treatment or similar extended-duration thromboprophylaxis with LMWH, UFH, VKA or DOACs in participants undergoing hip or knee replacement or hip fracture repair.

Data collection and analysis is done according to Cochrane guidelines.”

Author's conclusion suggests:

“Moderate quality evidence suggests extended-duration anticoagulants to prevent VTE should be considered for people undergoing hip replacement surgery, although the benefit should be weighed against the increased risk of minor bleeding. Further studies are needed to better understand the association between VTE and extended-duration oral anticoagulants in relation to knee replacement and hip fracture repair, as well as outcomes such as distal and proximal DVT, reoperation, wound infection and healing.”

Commentary

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Anticoagulant therapy following orthopaedic surgery mainly total hip and knee arthroplasty and hip fracture surgery has been a point of debate for many years all across the world. Even though there is some evidence that some form of anticoagulant therapy should be given post-operatively to prevent DVT, Whether this therapy prevents fatal PE (Pulmonary embolism) remains a question yet fully not answered.

Secondly the duration of anticoagulant therapy following above surgeries remains another point of debate. In UK most hospitals recommend therapy be given 10-14 days following knee replacement and 28-35 days following a hip replacement.

Thirdly the a detail risk assessment of bleeding VS DVT has not been addressed in these patients, and the risk of minor complications such as post operative bleeding, wound oozing, and infection caused by anticoagulant therapy.

A patient dying of PE as a complication of one of the above surgeries, not on anticoagulants is difficult to justify in a court of law,. However is there enough evidence to show increase in survival rates following anticoagulant therapy post-operatively?

A systematic review done by the Cochrane group (Vide Supra) tries to answer part of the question with regard to how long should We treat these patients.

After a major review authors still conclude that anticoagulants should be given with caution

Risk of bleeding should be carefully weighed against risk of DVT. According authors conclusions of above study We still need more studies to achieve clarity on duration of treatment and development of DVT.

While trying to answer these question with more studies the big questions still remain un answered.

- What is percentage of proximal DVT leading to PE?
- Does anticoagulants reduce the mortality following PE in this patient group?
- What is the contribution of anticoagulant therapy towards minor post-operative complications such as wound oozing, delayed healing, infection, post-operative bleeding etc.?

With all the debates studies and some evidence obtained in the past it appears that these questions will still need more research in coming years to get the full answers.

Association of Same Day Discharge With Hospital Readmission After Appendectomy in Pediatric Patients

Cairo S.B et al

JAMA Surg. 2017;152(12):1106-1112.

Importance

Appendectomy is the most common abdominal operation performed in paediatric patients in the United States. Studies in adults have suggested that same-day discharge (SDD) after appendectomy is safe and does not result in higher than expected hospital readmissions.

Objective

To evaluate the influence of SDD on 30-day readmission rates following appendectomy for acute appendicitis in paediatric patients.

Design, Setting and Participants

This retrospective cohort study used the American College of Surgeons National Surgical Quality Improvement Program–Paediatric database to evaluate 30-day readmission rates among paediatric patients who underwent an appendectomy for acute, non-perforated appendicitis. Patients selected for inclusion (n = 22 771) were between ages 0 and 17 years and underwent appendectomy for uncomplicated appendicitis between January 1, 2012, and December 31, 2015. Patients excluded were those discharged more than 2 days after surgery.

Exposures

Same-day discharge after appendectomy or discharge 1 or 2 days after surgery.

Main Outcomes and Measures

The primary outcome was 30-day readmission. Secondary outcomes included surgical-site infections and other wound complications.

Results

Of the 20 981 patients, 4662 (22.2%) had SDD and 16 319 (77.8%) were discharged within 1 or 2 days after surgery. The patient cohort included 12 860 boys (61.3%) and 8121 girls (38.7%), with a mean (SD) age of 11.0 (3.56) years. There was no difference in the odds of readmission for patients with SDD compared with those discharged within 2 days (adjusted odds ratio [aOR], 0.82; 95% CI, 0.51-1.04; $P = .06$; readmission rate, 1.89% vs 2.33%). There was no significant difference in reason for readmission on the basis of discharge timing. Likewise, there was no difference in wound complication rate between patients with SDD and those discharged 1 or 2 days after surgery (aOR 0.75; 95% CI, 0.56-1.01; $P = .06$).

Conclusions and Relevance

In paediatric patients with acute appendicitis undergoing appendectomy, SDD is not associated with an increase in 30-day hospital readmission rates or wound complications when compared with discharge 1 or 2 days after surgery. Same-day discharge may be an applicable quality metric for the provision of safe and efficient care for paediatric patients with acute, non-perforated appendicitis.

Commentary

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Appendectomy for uncomplicated appendicitis has long been considered as a potential candidate for day case surgery. This large database based cohort study seeks to buttress the argument in favour of day case appendectomy. The authors have looked at readmission and complication rates of patients discharged within two days of surgery in a paediatric population and found no adverse outcomes associated with same day discharge. These findings do hold relevance to our practice, especially given the social issues associated with prolonged hospital stays for children.

The negative predictive value of a negative repeat urinalysis in patients presenting with haematuria: A review of 1138 patients

Benjamin Zak Starmer, Amal Singh, Stephen Bromage.

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<https://doi.org/10.1177/2051415817711633>

Objective

Haematuria may be transient for a number of benign conditions, particularly a urinary-tract infection (UTI). We set out to determine if a negative repeat urinalysis at the time of urological assessment for patients with haematuria could predict negative investigations and whether investigations could be tailored by this test.

Methods

This was a retrospective analysis of records for all patients attending a haematuria clinic between 16 September 2013 and 12 September 2014. This included patients with visible and non-visible (microscopic) haematuria.

Results

There were 1138 patients, 599 with visible haematuria (VH) and 460 with non-visible haematuria (NVH). Seventy-two patients were excluded. A total of 546 patients had a positive repeat urinalysis for blood; 438 patients had a negative repeat urinalysis when tested at the haematuria clinic, 298/599 for VH and 140/460 NVH. For those who had negative repeat urinalysis, urothelial cancer was found in 15/298 VH and 1/140 NVH. The one patient with negative repeat urinalysis and NVH was found to have a grade 2 (high grade) bladder tumour. The negative predictive value for a negative repeat urinalysis in transient haematuria was 0.95 for VH and 0.99 for NVH. Twenty-nine patients with VH and repeat negative urinalysis on assessment had a positive urine culture suggesting a UTI as a cause. None of these patients was found to have urothelial cancer ($p = 0.0413$).

Conclusion

Patients who experience transient VH and subsequent repeat negative urinalysis in the absence of infection have a 5% chance of urothelial cancer and should still be investigated. For those with transient NVH, the probability of finding a urothelial cancer is <1%, although we did find a high-grade bladder tumour in this group. If patients have a positive urine culture and a negative repeat urinalysis following treatment, they could be spared haematuria investigations.

Commentary

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The above study reinforces the guidelines indicating the need to investigate those with visible haematuria to completion.

The detection of a single high grade bladder cancer, though “statistically” a low number, among those with non visible haematuria patients cannot be discarded lightly. However, the recommendation of sparing those with a positive urine culture and a negative repeat urinalysis after treatment is pragmatic. Also utilizing the positive or negative status of a repeat urinalysis to prioritise patients for investigation can be useful in resource poor settings.