Reviewer's report

Title: Clinical apparent thrombosis as a complication of central venous access in pediatric patients with malignancies: A 5-year single-center experience

Version: 2 Date: 23 May 2014

Reviewer: paola saracco

Reviewer's report:

> 1. IS THE QUESTION POSED BY THE AUTHORS WELL DEFINED? YES
> 2. ARE THE METHODS APPROPRIATE AND WELL DESCRIBED? YES
> 3. ARE THE DATA SOUND? YES
> 4. DOES THE MANUSCRIPT ADHERE TO THE RELEVANT STANDARDS FOR REPORTING AND DATA DEPOSITION? PARTLY
> 5. ARE THE DISCUSSION AND CONCLUSIONS WELL BALANCED AND ADEQUATELY SUPPORTED BY THE DATA? PARTLY
> 6. ARE LIMITATIONS OF THE WORK CLEARLY STATED? YES
> 7. DO THE AUTHORS CLEARLY ACKNOWLEDGE ANY WORK UPON WHICH THEY ARE BUILDING, BOTH PUBLISHED AND UNPUBLISHED? YES
> 8. DO THE TITLE AND ABSTRACT ACCURATELY CONVEY WHAT HAS BEEN FOUND? PARTLY
> 9. IS THE WRITING ACCEPTABLE? YES

REVIEW –

THIS RETROSPECTIVE 5 YEARS PERIOD STUDY EXAMINES THE INCIDENCE OF CVC-ASSOCIATED THROMBOSIS IN A SINGLE CENTRE POPULATION OF 269 CHILDREN WITH CVC OUT OF 448 PEDIATRIC ONCOLOGIC PATIENTS, ANALYZING WHETHER EPIDEMIOLOGIC CHARACTERISTICS AND TREATMENT RELATED CHARACTERISTICS (SUCH AS CHEMOTHERAPY DRUG, DURATION, AND POSITION) INFLUENCED THE FREQUENCY OF THROMBOSIS, AND WHETHER ANY SUBGROUP APPEARED TO HAVE AN INCREASED RISK OF CENTRAL VENOUS ACCESS THROMBOSIS, THUS NEEDING PROPHYLACTIC ANTICOAGULATION. AUTHORS CONCLUDE THAT DATA ABOUT CVC-ASSOCIATED THROMBOSIS AND PROPHYLAXIS IS SCARCE, AND SUGGESTS THAT ROUTINE THROMBOPROPHYLAXIS IS NOT JUSTIFIED, ESPECIALLY WITH REGARD TO THE SIDE EFFECTS IN YOUNG HYPERACTIVE CHILDREN. ENSURING AN APPROPRIATE CATHETER
POSITION SEEMS TO BE THE MOST EFFECTIVE MEASURE TO PREVENT CVC-ASSOCIATED THROMBOSIS. PEDIATRIC SURGEONS AND ONCOLOGISTS SHOULD PAY ATTENTION TO OPTIMAL CVC PLACEMENT IN ORDER TO AVOID CVC RELATED COMPLICATIONS.

1. THE AUTHORS REPORT THAT THROMBOSIS OCCURRED IN 55 OF 269 PATIENTS (20%) AND OF THESE 55 PATIENTS, 43 HAD AT LEAST ONE CVC-ASSOCIATED THROMBOSIS (N = 52) AND THEY FOUND THAT LOCATION OF THE CATHETER IN THE RIGHT ATRIUM OR PROXIMAL VENA CAVA SUPERIOR APPEARED TO BE ASSOCIATED WITH LESS CVC-ASSOCIATED THROMBOSIS. HOWEVER THESE DATA ANALYSIS ARE NOT SHOWN IN RESULTS. (ALL CVC WERE REPORTED AS BEING CORRECTLY POSITIONED). THIS INFORMATION SHOULD BE BETTER EXPOSED.

2. THE AUTHORS ALSO REPORT NO DIFFERENCE IN RATE OF THROMBOSIS AMONG DIFFERENT TYPES OF MALIGNANT DISEASE, BUT THE EVIDENT LOWER RATE IN SOLID TUMORS COMPARED TO OTHERS SHOULD BE EMPHASIZED.

CORRECTIONS TO BE MADE IN METHODS: 1) THROMBOSIS OR VASCULAR COMPLICATIONS SHOULD BE BETTER Defined (IF INCLUSIVE OF CATHETER OCCLUSION) AND BETTER DESCRIBED IN THE RESULTS (SITE, DX IMAGING ETC) IN RESULTS: 2) REPORTED THE “MEDIAN” TIME INSTEAD OF “MEAN” FROM CVC INSERTION UNTIL 173 CATHETER-ASSOCIATED THROMBOSIS WAS 202 ± 32 DAYS, AND THE MEDIAN TIME (MEAN) SINCE 174 DIAGNOSIS WAS 344 ± 53 DAYS…… 3) IN RESULTS: THE VENA SUBCLAVIA CATHETERS (45/269) SHOWED THE HIGHEST INCIDENCE OF THROMBOSIS (11 PATIENTS WITH 45 IMPLANTED CATHETERS; 24%),…… IN DISCUSSION IT IS STATED …..WE CONFIRMED THAT THERE WAS A LOWER INCIDENCE OF CVC-RELATED THROMBOSIS WITH SUBCLAVIAN AND JUGULAR ACCESS …..