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Title: A PROSPECTIVE STUDY ON ADHERENCE TO SECONDARY PROPHYLAXIS FOR RHEUMATIC FEVER USING BENZATHINE PENICILLIN G IN MOZAMBIQUE

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Background & Aims: Delivery of regular long-acting intramuscular benzathine penicillin G (BPG) injections is the most effective method for secondary prophylaxis against acute rheumatic fever (ARF). We aimed to assess the adherence rates to BPG regimens for prevention of ARF in a low-income setting.

Methods: Between November/2017 and October/2018 we profiled a cohort of patients with Rheumatic Heart Disease (RHD) on secondary prophylaxis at two hospitals in Mozambique; then we prospectively assessed adherence to secondary prophylaxis using monthly BPG injections. Cultures obtained from throat swabs collected at the 12th month of prophylaxis on 78 patients selected randomly, and were examined by gram stain, catalase test and CAMP test to detect Group A Streptococcus (GAS).

Results: We enrolled 121 patients, mostly adolescents (mean age 20.8 years; SD 5.9) and females (77; 63.3%). Isolated or combined mitral regurgitation was the commonest lesion (107 patients; 88.4%), followed by aortic regurgitation (54; 44.6%) and mitral stenosis (21; 17.4%). The overall follow up was 192 person-years with a mean follow up of 19 months (1.583 years per case). The adherence rate was 88.0%, corresponding to 2228 injections applied out of the 2514 expected; only 1708 (76.6%) were administered at the expected date and 59 patients (49%) were fully compliant. Testing for GAS throat colonization in patients randomly selected on month 12 was negative. One fatal event occurred in relation to BPG injection, not fulfilling criteria for anaphylaxis. ARF incidence during follow-up was 5.82 (95% CI 0.25 - 25.8) cases/1000 patients per annum.

Conclusions: RHD patients on secondary prophylaxis in urban hospitals in Mozambique had good adherence and acceptable compliance to monthly BPG injections. The incidence of ARF during follow-up was low and no classic anaphylaxis occurred. Further research is warranted to address gaps in delivery of secondary prophylaxis.