

BACKGROUND: Open simple prostatectomy has long been associated with large blood losses; hence allogeneic blood transfusion in this procedure is a standard practice world over. A review of literature suggests significant association between perioperative blood loss accompanying open simple prostatectomy and certain patient factors. The shortage of blood and blood products in our blood transfusion centres as well as the alarming risks of transfusion reactions and disease dissemination demanded a review of these factors with the aim of reducing morbidity associated with peri-operative blood loss and blood transfusion. **OBJECTIVES:** To assess blood loss, determine blood transfusion rate, and define some of the factors associated with peri-operative blood loss and blood transfusion in open simple prostatectomy. **DESIGN:** A prospective cohort study. **SETTINGS:** The urology units of Kenyatta National Hospital, Kenya. **RESULTS:** Ninety five patients who underwent open simple prostatectomy for benign prostatic hyperplasia were enrolled into the study. Their median age was 70 years (Range 50 to 97). The mean decrease in haemoglobin concentration, which was the main indicator of peri-operative blood loss, was 2.1 g/dl (+/- 1.4). The peri-operative blood transfusion rate was 36.8 %. Twenty four (68.6%) of the patients who received either one or two units of blood had a pre-operative haemoglobin level above 13.5g/ dl and a post-operative haemoglobin level above 11.5 g/dl, while 11 (31.4%) had severe peri-operative bleeding, that necessitated immediate surgical re-intervention. A total of 68 units of blood was transfused, 42 (61.8%) allogeneic and 26 (38.2%) autologous blood. The post-operative median hospitalisation time was eight days (Range 4 to 35). There were two (2.1%) post-operative deaths and both patients had intractable intra- and post-operative bleeding, massive blood transfusion and disseminated intravascular coagulopathy. The factors that were significantly associated with peri-operative blood loss and blood transfusion in open simple prostatectomy were patient's aged above 70 years, pre-operative use of acetylsalicylate or warfarin sodium, pre-operative systolic blood pressure above 140 mmHg, general anaesthesia, Freyer's (transvesical) technique and the weight of resected prostatic tissue above 70 grams. **CONCLUSION:** Open simple prostatectomy performed under spinal anaesthesia using Millin's (retropubic) technique is associated with minimal blood loss. The perioperative blood transfusion rate was 36.8%.