

## Case Report:

# Serum sodium derangement in bowel preparation with Polyethylene Glycol (PEGLEC) prior to elective colonoscopy: case report

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Date of submission: 05 September 2014; Date of Publication: 30 September 2014

## Abstract

Polyethylene Glycol With electrolytes (PEGLEC) is a commonly used oral preparation for mechanical bowel preparation prior to colonoscopy. Its use has been seen in bowel preparation started one day prior to surgery as opposed to the traditional 3-5 days regimen. However it is not known whether the use of PEGLEC solution in our setup has any effect on the serum level of sodium and potassium which is critical in any gastrointestinal surgery. This study therefore seeks to assess for any derangement in the serum level of potassium and sodium following bowel preparation with PEGLEC.

**Key words:** Bowel Preparation, PEGLEC

## Case study

75 years old man presented with history of altered bowel habits, abdominal pain and discomfort, weight loss with decreased appetite since last 3 months. Patient was admitted in surgery department for evaluation of his complaints. He had a past history of bilateral hernioplasty done in the year 2010 and appendectomy done in 2012. He is a known case of Chronic obstructive pulmonary disease since last 30 years on inhalation bronchodilators and steroids.

There was no history of vomiting, burning micturition and fever. No history of hypertension and ischaemic heart disease. On examination the patient was conscious, alert, well oriented to person, place and time. He was averagely built and well nourished. His vitals were normal with pulse of 78 beats/min and B.P. 110/80mm Hg. CNS examination revealed higher functions normal with reflexes intact, Per

abdomen examination was suggestive of no hepatosplenomegaly, Respiratory and cardiovascular system examination did not reveal any significant abnormality. He was planned for colonoscopy to rule out malignancy. His investigations were within normal limits including CBC, Renal function tests, Liver function test, Blood glucose level, serum amylase, serum lipase & Urine examination. USG abdomen & pelvis revealed cystitis. Serology was non reactive. However serum electrolytes were deranged with serum sodium 135mEq/l and potassium 4.3mEq/l. Further colonoscopy was planned & Polyethylene Glycol With electrolytes (PEGLEC) was administered to the patient one day prior to colonoscopy. The next morning patient became symptomatic with history of altered sensorium, irritability & was disoriented to person,

place and time. Colonoscopy was withheld and patient was transferred to medicine for further care and management in ICU. Serum electrolytes at that time were considerably decreased from 135 to 104mEq/l and potassium from 4.3 to 4.0mEq/l. However urinary sodium levels were within normal limits on both the occasions; that is prior and after the administration of Polyethylene Glycol With electrolytes (PEGLEC). Patients consciousness & orientation level improved dramatically after electrolyte corrections.

### Discussion

There has been very few studies which have revealed the fact that Polyethylene Glycol With electrolytes (PEGLEC) used in bowel preparation before colonoscopy causes hyponatremia. One study done in Kenyatta National Hospital, Nairobi revealed dyselectrolytemia in the form of hyponatremia & hypokalemia in 36 patients after the use of PEGLEC in bowel preparation. 14% and 2.8% developed hyponatraemia and hypokalaemia respectively after PEGLEC administration. However hyponatremia was significant as compared to that of hypokalemia and hyponatremia was predominantly observed in patients with an age group of above 50 years.<sup>1</sup>

### Conclusion

Hyponatraemia is likely to develop after the age of 50 years in bowel cleansing with Polyethylene Glycol (PEGLEC). It is therefore necessary to repeat serum electrolytes in patients aged above 50 years after bowel preparation done by PEGLEC.

### Reference

1. Too P K, Serum Potassium and Sodium Derangement in Bowel Preparation With Polyethylene Glycol(PEGLEC) Prior to Elective Colorectal Surgery, doctoral diss, Kenyatta National Hospital, University of Nairobi, 2013.



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