Ingenious build-in suction system: an effective knack to prevent stoma pouch leakage in infant

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Keywords:
suction system
stoma pouch
leakage
infant

Introduction
Infants who develop necrotizing enterocolitis (NEC) are usually managed with surgical approach involved the creation of stomas. Stomal retraction is always a major cause leading to extensive skin excoriation and frequent pouch change postoperatively. Poor skin condition will affect surgeon’s planning in stoma closure. An ingenious build-in suction system to stomal pouch was designed by wound nurses and paediatric surgeon to prevent pouch leakage and promote wound healing.

Objectives
(1) To develop pouching system with continuous suction to prevent leakage in infant with retracted stomas; (2) To monitor the effectiveness of pouching system in skin improvement and comfort; (3) To decrease staff workload in repetitiously pouch changing.

Methodology
Fr. 12 suction catheter with extra side holes was inserted to paediatric stoma pouch. Catheter tip was fixed next to stomal opening (~ 3mm) at the wafer. Pouch exit was sealed up by hydrocolloid dressing to maintain suction. Mucus specimen trap set was connected between the catheter and wall suction. Minimal suction (<10mmHg) was operated continuously after pouch applied. Excessive watery stool can be either draw out by low suction or drained to the pouch. Chance of leakage due to overwhelming of watery stool was greatly reduced.

Result
Total 3 cases of infants with NEC (M: 2, F:1) with age from 10 days to 26 days had stoma operations done from October to December, 2014. All 3 cases had suffered
from severe stomal retraction postoperatively. Frequent pouch leakage (2-3x / shift) and extensive skin excoriation persisted with conventional method by stomahesive paste, rings, skin sealants and barrier. There has no leakage after the implementation of the build-in suction system in their stomal pouch. Pouch can keep intact for over 1 whole day. Excessive watery stool can be draw out from pouch & measured from the specimen trap set. Skin excoriation healed completely by 1 week. One case with closure of ileostomy at 3 month of age. Tremendous workload on pouch changing had been relieved in NICU. An ingenious build-in suction system in stoma pouch is effective in prevention of pouch leakage. Painful pouch change for the infant with skin excoriation can be enormously reduced. Team work with innovative skill can help to overcome complicated stoma and wound problems in infants.