

The Successful Use of Hypochlorite Free Pure Hypochlorous Acid* (pHA) Solution in the Non-Surgical Management of Giant Omphaloceles in Neonates

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Introduction

Giant omphalocele (GO) is a congenital abdominal wall defect with a fragile sac containing abdominal organs, often including the liver. Preserving sac integrity while preventing infection is critical during non-operative management. This study evaluates hypochlorite free pure hypochlorous acid (pHA, referred to as HOCl in this presentation) preserved solution as a wound care adjunct for GO sac maturation and epithelialization.

Methods

Three neonates with GO were treated using a standardized HOCl cleanser based wound care protocol. Dressings included 3–5 min HOCl soaks followed by hydrofiber and silicone border dressings, changed 2–3 times weekly, then weekly. Sac stability, granulation, epithelialization, and infection were monitored during treatment.

Results

All cases demonstrated progressive GO sac maturation with vascularization, granulation, slough separation, and epithelialization while maintaining sac integrity. No sac infections occurred and no antibiotic therapy was required.

Conclusions

HOCl based cleanser supported atraumatic wound care and progressive sac maturation in neonates with GO while preserving sac integrity. No infections or additional antibiotic therapy were required.

CASE 1: GO

- **36-week preterm female** with GO containing liver and intestines
- Thin translucent sac intact at birth
- **HOCl protocol:** 3-5 min soaks; dressing changes 2-3x weekly; then weekly (**17 total**)
- **Outcome:** sac maturation and epithelialization; parents continued dressings at home; healed at **103 days; no infection, no antibiotics or readmission**



Day 0- Intact sac



Day 15- Vascularizing



Day 22- Maturing



Day 29- Sloughing



Day 71- Epithelializing



Day 103- HEALED

CASE 2: GO

- **35-week preterm female** with intrauterine growth restriction and GO
- Sac intact and translucent with liver and intestines present
- **HOCl protocol:** 3-5 min soaks; dressing changes 2-3x weekly; then weekly (**33 total**)
- **Outcome:** sac maturation and epithelialization; parents continued dressings at home; healed at **181 days; no infection, no antibiotics or readmission**



Day 0- Intact sac



Day 12- Vascularizing



Day 33- Granulation



Day 68- Sloughing



Day 113- Epithelializing



Day 181- HEALED

CASE 3: GO

- **37-week female** with 9-cm GO containing liver and intestines
- Intact translucent sac; progressive GO sac evolution with neovascularization and granulation
- **HOCl protocol:** 3-5 min soaks; dressing changes 2-3x weekly; then weekly (**46 total**)
- **Outcome:** sac maturation and epithelialization; 184 days transferred out; no infection or antibiotics for sac healing



Day 0- Intact sac



Day 6- Vascularizing



Day 83- Epithelializing



Day 126- Epithelializing



Day 146- Contracting



Day 183- TRANSFERRED

References

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