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REVIEWER'S REPORT

Manuscript No.: IJAR- 50494 Date: 01/03/2025

Title: "Prune Belly Syndrome: A Case Report"

Recommendation:
✓ Accept as it is .....
Accept after minor revision.....
Accept after major revision .....
Do not accept (*Reasons below*) .....

Rating	Excel.	Good	Fair	Poor
Originality	✓			
Techn. Quality		✓		
Clarity		✓		
Significance		✓		

Reviewer Name: Dr. S. K. Nath **Date:** 02/03/2025

Reviewer's Comment for Publication:
This case report provides valuable insights into the diagnosis, clinical presentation, and challenges of managing Prune Belly Syndrome. The study highlights the critical role of early intervention, multidisciplinary care, and antenatal screening in improving patient outcomes.

However, further research with larger sample sizes, genetic analysis, and long-term follow-up studies is needed to enhance prognostic accuracy and develop new treatment approaches. Future advances in fetal intervention, neonatal surgery, and genetic therapy could offer better survival prospects for PBS patients.

This study contributes to the limited literature on Prune Belly Syndrome, serving as a valuable resource for neonatologists, pediatric surgeons, and urologists. A global registry of PBS cases and multicenter collaboration could help improve clinical guidelines and refine treatment protocols for this rare disorder.

Reviewer's Comment / Report

This research paper presents a case report on Prune Belly Syndrome (PBS), a rare congenital disorder characterized by abdominal muscle hypoplasia, urinary tract anomalies, and bilateral cryptorchidism. The study describes the clinical presentation, diagnostic process, management strategies, and prognosis of a premature neonate diagnosed with PBS at birth.

Key findings include:
• The newborn, delivered at 32 weeks gestation, exhibited abdominal wall deficiency, a distended abdomen, cryptorchidism, and urinary tract abnormalities.
• Ultrasound confirmed bilateral hydronephrosis, megaureter, and renal dysfunction, necessitating a vesicostomy.
• Despite initial stabilization, the infant experienced recurrent urinary tract infections and dehydration episodes, leading to death at 8 months due to sepsis and renal failure.
• The study highlights the importance of early diagnosis, a multidisciplinary approach, and antenatal detection to improve outcomes.

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Key Strengths of the Study

1. **Detailed Case Presentation with Clear Clinical and Diagnostic Findings**: The study provides comprehensive clinical data, including prenatal history, birth details, and physical examination findings. Imaging results (ultrasound findings of hydronephrosis, megaureter, and bladder dilation) strengthen the diagnosis.

2. **Thorough Discussion on Etiology and Prognosis**: The paper explores genetic and chromosomal associations (trisomy 18, trisomy 21) as potential causes of PBS. It provides a clear prognosis spectrum, from fatal neonatal cases to mild forms with near-normal survival.

3. **Emphasis on the Need for Multidisciplinary Management**: The study reinforces the importance of a collaborative approach, involving neonatologists, urologists, nephrologists, and pediatric surgeons. It discusses surgical interventions (vesicostomy, orchidopexy, urinary diversion) and their role in long-term management.

4. **Comparison with Existing Literature**: The case findings are correlated with previously documented PBS cases, enhancing the study's credibility. References to early diagnosis, antenatal detection, and long-term survival cases provide valuable context.

Limitations of the Study

1. **Single-Case Report with Limited Generalizability**: As a single case study, findings cannot be broadly applied to all PBS patients, given the high variability in disease severity and outcomes. A larger case series or multi-center study would provide better statistical insights.

2. **Lack of Long-Term Survival Data**: The study documents only short-term outcomes (8 months), without discussing long-term survival possibilities for less severe PBS cases. Future research should explore cases of PBS patients surviving into adolescence or adulthood.

3. **Limited Discussion on Alternative Treatment Approaches**: The study focuses on surgical management but lacks insights into emerging therapies, pharmacological interventions, or experimental treatment options. A discussion on potential gene therapy or regenerative medicine approaches could add depth.

4. **Absence of Genetic Testing Confirmation**: While the study hypothesizes genetic associations, it does not include cytogenetic or molecular diagnostic results to confirm specific mutations or chromosomal abnormalities. Including genetic screening would strengthen the etiological analysis.