



INTISARI

Latar belakang: Buried penis merupakan kelainan kongenital atau didapat pada sistem urogenital yang ditandai oleh tersembunyinya batang penis akibat gangguan pada jaringan penopang, terutama fascia dartos. Kolagen tipe II (COL2A1) diketahui berperan dalam integritas dan elastisitas jaringan, namun keterlibatannya dalam patofisiologi buried penis belum dipahami sepenuhnya

Tujuan: Menilai ekspresi gen COL2A1 sebagai gambaran elastisitas jaringan dartos pada pasien buried penis.

Metode: Penelitian eksperimental ini melibatkan 34 sampel jaringan dartos dari pasien anak usia <15 tahun di RSUP Dr. Sardjito (2017–2020). Sampel terdiri dari 10 kasus buried penis dan 24 kontrol. Ekspresi gen COL2A1 diukur menggunakan qPCR. Data dianalisis dengan uji Kruskal-Wallis dan Mann-Whitney.

Hasil: Ekspresi COL2A1 pada kelompok buried penis lebih rendah secara signifikan dibandingkan kelompok kontrol ($0,42 \pm 0,18$ vs. $1,11 \pm 0,56$; $p=0,00$). Uji post hoc menunjukkan perbedaan tetap bermakna secara statistik.

Kesimpulan: Penurunan ekspresi COL2A1 menunjukkan keterkaitan antara gen ini dengan elastisitas jaringan dartos dan berperan dalam patogenesis buried penis

Kata kunci: *Buried Penis*, COL2A1, Kolagen, Jaringan Dartos



ABSTRACT

Background: Buried penis is a congenital or acquired urogenital anomaly characterized by the concealment of the penile shaft due to structural abnormalities in the supporting tissues, particularly the dartos fascia. Type II collagen (COL2A1) is known to contribute to tissue integrity and elasticity; however, its role in the pathophysiology of buried penis remains unclear.

Objective: To evaluate COL2A1 gene expression as a representation of dartos fascia elasticity in patients with buried penis.

Methods: This experimental study involved 34 dartos tissue samples from male pediatric patients under 15 years of age treated at Dr. Sardjito General Hospital between 2017 and 2020. Samples were classified into 10 buried penis cases and 24 controls. COL2A1 gene expression was measured using quantitative PCR (qPCR). Data were analyzed using the Kruskal-Wallis and Mann-Whitney U tests.

Results: COL2A1 expression was significantly lower in the buried penis group (0.42 ± 0.18) compared to the control group (1.11 ± 0.56 ; $p=0.00$). Post hoc analysis also revealed statistically significant differences.

Conclusion: Decreased COL2A1 expression is associated with reduced dartos fascia elasticity and may play a role in the pathogenesis of buried penis.

Keywords: Buried penis, COL2A1, collagen, dartos fascia