

**Awitan dan durasi kerja lidocaine dalam larutan one-per-mil tumescent
= The onset and duration of action of lidocaine in one-per-mil
tumescent solution / Puri Ambar Lestari**

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Abstrak

**ABSTRAK
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Pendahuluan: Tujuan studi ini adalah untuk mengetahui awitan dan durasi kerja lidocaine dalam larutan one-per-mil tumescent.

Metode: Studi eksperimental dengan kontrol dan desain buta acak ganda (triple blind study) dilakukan pada 12 subjek sehat yang diinjeksikan larutan one-per-mil tumescent mengandung lidocaine 0,2% pada satu tangan atau lidocaine 2% pada tangan kontralateral. Awitan dan durasi kerja lidocaine diukur berkala dengan uji sensoris Semmes-Weinstein dan diskriminasi dua titik. Tingkat nyeri diukur dengan visual analogue scale (VAS)

Hasil: Awitan tercepat pada grup lidocaine 2% tercatat pada menit ke 1 (rentang: menit ke 1 hingga 6). Awitan rata-rata pada grup larutan one-per-mil tumescent adalah 4.67 menit (\pm 2.53 menit). Durasi kerja lidocaine 2% adalah 95.58 menit (\pm 29.82 menit), sedangkan durasi kerja larutan one-per-mil tumescent adalah 168.5 menit (\pm 45.1 menit) dengan uji diskriminasi dua titik dan 186.83 menit (\pm 44.02 menit) dengan uji sensoris Semmes-Weinstein. Terdapat perbedaan awitan dan durasi kerja yang signifikan pada kedua grup. Tidak ditemukan perubahan sensibilitas ujung jari yang signifikan pada kedua grup pada saat sebelum dan sesudah intervensi.

Kesimpulan: Studi ini menunjukkan awitan dan durasi kerja lidocaine dalam larutan one-per-mil tumescent adalah rata-rata 4,67 dan 168,5 menit. Lidocaine 0,2% dalam larutan one-per-mil tumescent menghasilkan awitan yang lebih lambat dan durasi kerja yang lebih panjang dibandingkan dengan lidocaine 2%.

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**ABSTRACT
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Background: We aimed to profile the onset and duration of action of the lidocaine in one-per-mil tumescent solution.

Methods: A controlled, prospective, and randomized triple blind study was conducted on both hand of 12 healthy volunteers who were injected in two consecutive days in his ring finger with either one-per-mil tumescent solution containing 0.2% lidocaine (experimental finger) in one hand or 2% lidocaine (control finger) in the contralateral hand. The onset and duration of action of lidocaine were measured over time by Semmes-Weinstein and two-point discrimination test. The level of pain was evaluated using visual analogue scale (VAS).

Results: The fastest onset of action in 2% lidocaine group was in the first minute (range, minute 1 to 6). Average onset of action of one-per-mil tumescent solution was 4.67 minutes (\pm 2.53 minutes). Duration of action of 2% lidocaine was 95.58 minutes (\pm 29.82 minutes), meanwhile the duration of one per-mil tumescent solution was 168.5 minutes (\pm 46.4 minutes) by 2PD test and 186.83 minutes (\pm 44.02 minutes) by SW test. There were significant difference of the onset and duration of action of both groups. Fingertip sensibility before and after the intervention did not change significantly in both group.

Conclusion: This study shows that the onset and duration of action of lidocaine in the one-per-mil solution injected in the finger using tumescent technique subsequently at 4.67 and 168.5 minutes in average. 0.2% lidocaine in one-per-mil tumescent solution produced slower onset and longer duration of action compared to 2% lidocaine.