

Med-timeline : A Digital Timeline Tool For Drug Reactions



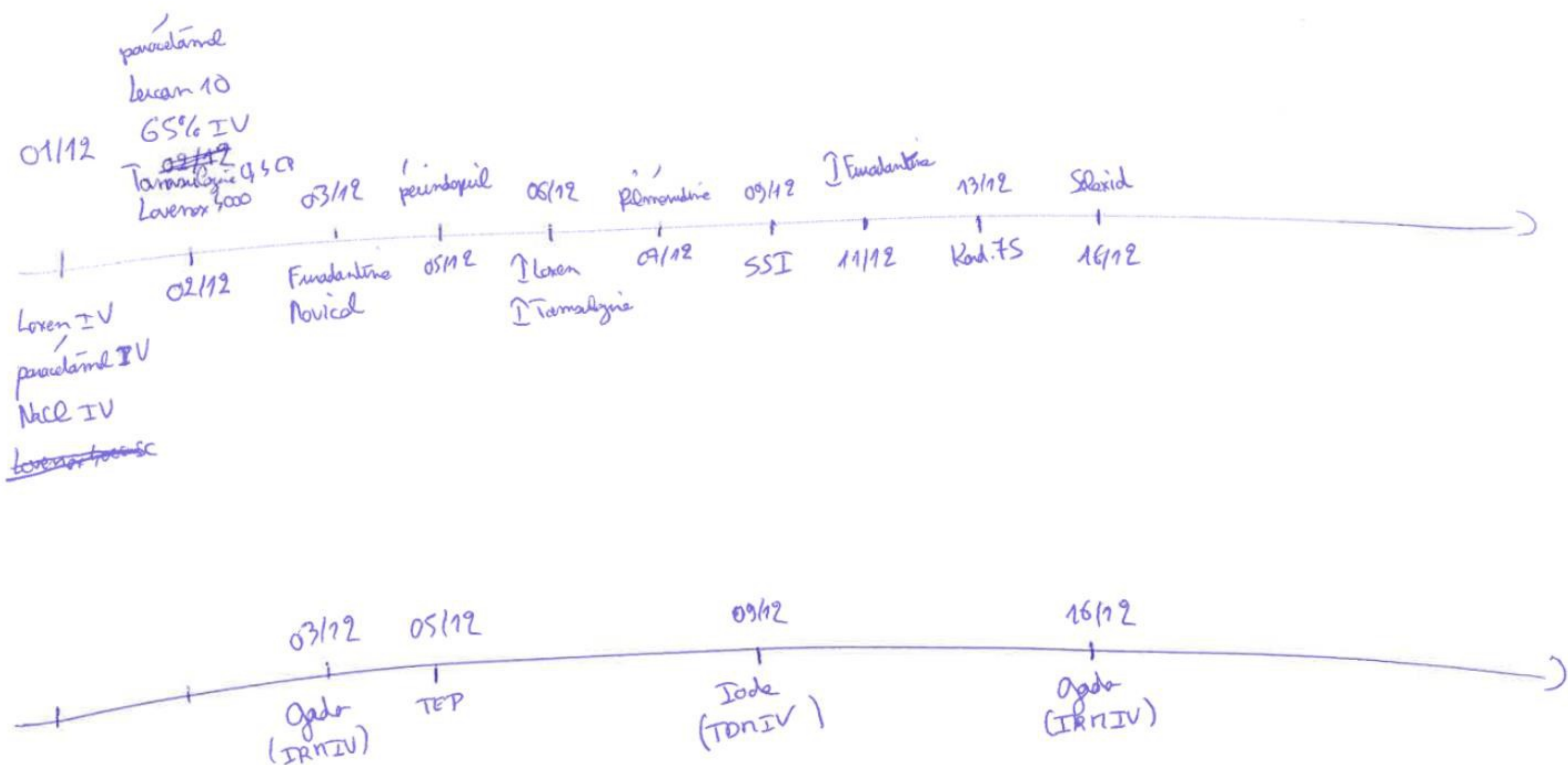
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Introduction

Cutaneous adverse drug reactions are frequent but determining the culprit drug is challenging, especially in polymedicated patients. Hand-drawn medication timelines are commonly used but are often imprecise, hard to interpret, and time-consuming. **Med-Timeline** is a **free web-based tool** specifically designed to produce a clear, standardized visualization of drug exposures.

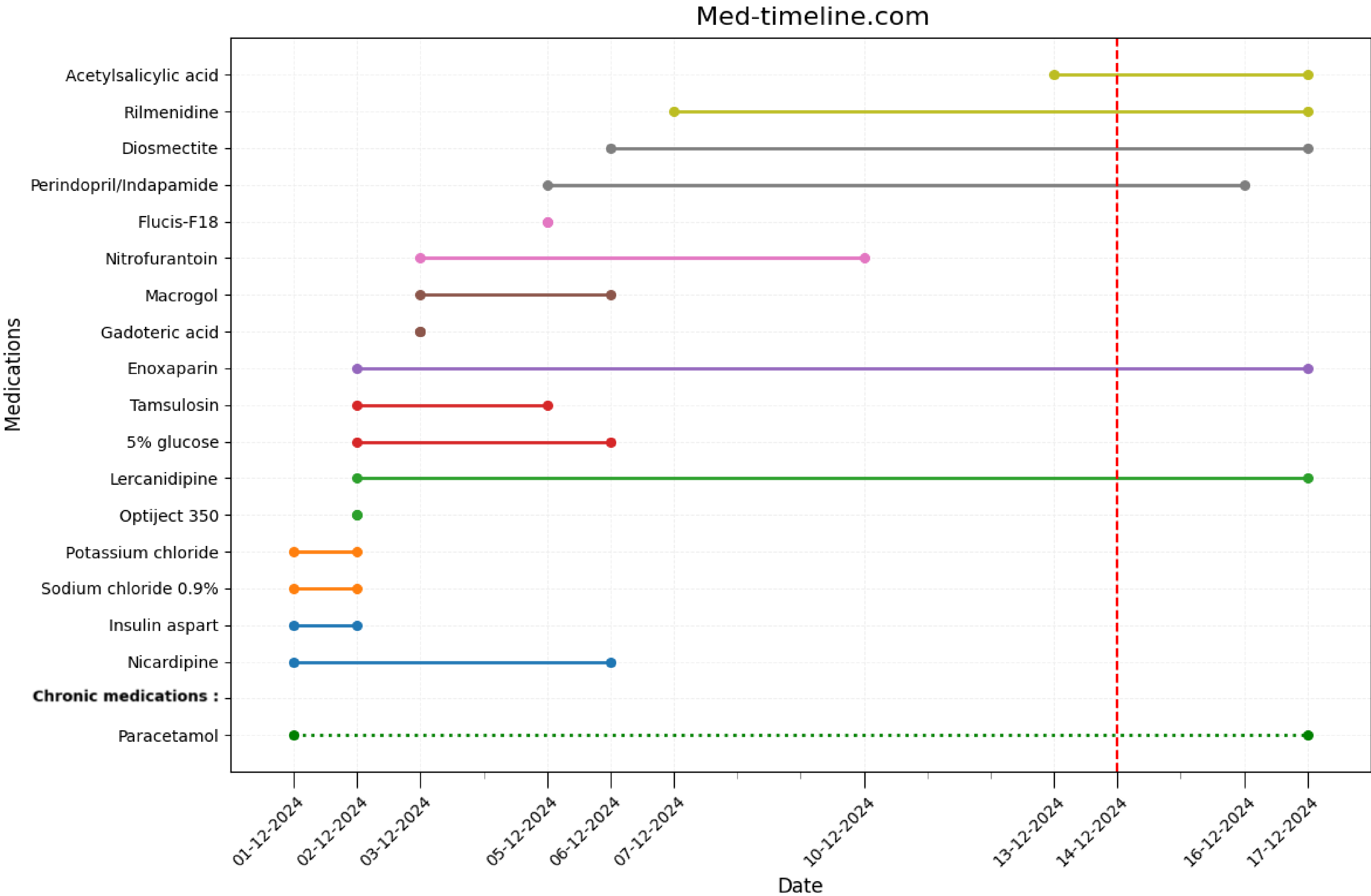
Case Description

A 74-year-old woman hospitalized for ischemic stroke developed a maculopapular exanthem on the trunk and limbs, without mucosal involvement or eosinophilia. A drug reaction was suspected. The initial hand-drawn medication chart was unclear and inconsistent, preventing reliable causality assessment (**Fig. 1**). Using Med-Timeline, treatment dates, background therapies, and rash onset were entered to generate a standardized, color-coded chronology with latency-based filtering (**Fig. 2**). Six drugs were identified as temporally compatible: rilmenidine, dioctahedral smectite, enoxaparin, lercanidipine, and perindopril/indapamide.



Discussion

Generic timeline tools exist but are not designed for clinical pharmacovigilance. Med-Timeline addresses this gap with a user interface tailored for clinicians, differentiating background therapies from recent exposures, and producing a clear chronological view of treatments and symptom onset. The tool is built in Python and can export timelines in PNG, PDF, or Excel formats, enabling integration into medical records and pharmacovigilance reports. Its standardized visual output can also facilitate the application of formal causality algorithms by improving temporal data clarity. In our case, the contrast between the unreadable manual chart (**Fig. 1**) and the structured digital version (**Fig. 2**) highlights its added value.



Conclusion

Med-Timeline provided a standardized and interpretable drug history in a case where manual methods had failed. Its integration into clinical workflows could enhance causality assessment, save time, and support pharmacovigilance.

