Naskah pendahuluan kerjasama riset 3 negara

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**Figure 1.** Schematic of potential interaction between an absorbable metal-local tissue interactions followed by the body response. Corrosion starts as the implant is inserted, then the tissue reacts to this foreign body. Corrosion products formed and released into the tissue are fragmented from micron size down to ions, transported by the blood cells and passed into different tissue depending on the implantation site, i.e., bone, muscle, skin, etc.

**Abstract:** Absorbable metals have been introduced as materials to fabricate temporary medical implants. Iron, magnesium and zinc have been considered as major base elements of such metals. The metallurgical characterization and in-vitro corrosion assessment of these metals have been covered by the new ASTM standards F3160 and F3268. However, the in-vivo corrosion characterization and assessment of absorbable metal implants are not yet well established. The corrosion of metals in the in-vivo environment leads to metal ion release and corrosion product formation that may cause excessive toxicity. The aim of this work is to introduce the techniques to assess absorbable metal implants and their in-vivo corrosion behavior. This contains the existing approaches, e.g., implant retrieval and histological analysis, ultrasonography and radiography, and the new techniques for real-time in-vivo corrosion monitoring. View Full-Text **Keywords:** absorbable biodegradable corrosion in-vivo metal monitoring