

Determinants of Eradication Rate

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Reliable 95% cure rates of *H. pylori* infections are achievable. The requirements include the details of the regimen including those affecting the regimen and those originating in the patients. For the regimen the specific details are critical including the drugs, formulations, doses, dosing intervals, and durations. In addition, drug administration in relation to meals may also be important. Those originating in the patient include compliance with the regimen which includes motivation and whether side-effects occur and genetic polymorphisms that affect drug metabolism especially polymorphisms in CYP2C19 which can be a critical determinant for pH dependent drugs. Finally, despite the best planning in terms of matching the regimen to the patient, antimicrobial resistance becomes the final arbitrator of effectiveness. As a general principle, a specific eradication regimen in terms of doses, dosing intervals and duration will provide similar if not identical results with susceptible strains in any population worldwide. With amoxicillin-containing regimens, populations with a high prevalence of CYP2C19 rapid and ultra rapid metabolizers will obtain inferior results compared to populations with a high prevalence of slow and intermediate metabolizers. This difference can be minimized or overcome by using higher PPI dosing in the rapid metabolizer populations. If one knows the susceptibility pattern in any population one can reliably choose a regimen that will achieve 90% or greater eradication intention-to-treat among those who comply with the instructions. The key is to know what works well locally and to know why. Then to educate the patient regarding possible side effects and the importance of following the instructions and completing the therapy. Finally, the specific details of the therapy chosen including doses, dosing intervals, and duration should be accurate.