

## Antibiotic Activity Is Evident in Omental Tissue

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### 1. Short Report

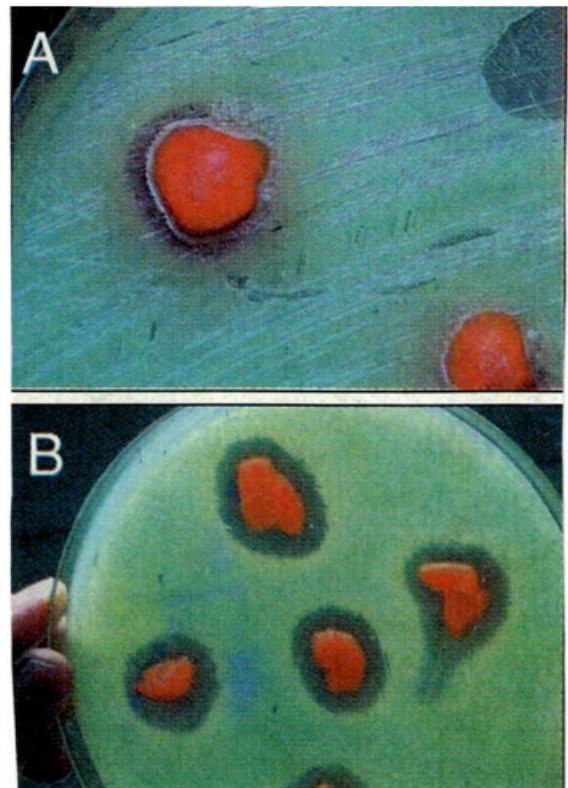
There is a continuing concern about super bacteria that are resistant to all known antibiotics. The need for new antibiotics that would have a beneficial effect in the control of these organisms is of extreme importance. The purpose of this report is to present the findings that the omentum appears to have antibiotic activity within its tissues that could have a beneficial effect in the treatment of those bacteria that presently are not affected by conventional antibiotics.

In past years, two laboratory studies strongly suggested that the omentum has a positive antibacterial effect. A study [1] in dogs showed that when a piece of the aorta was replaced by a dacron graft enveloped by the omentum in the presence of a large amount of liquid feces, animals with omental protection were all alive at one year, whereas dacron grafts without protection by the omentum in the presence of liquid feces, showed only a 20% survival at one year.

Another laboratory study [2] involved the placing of an elongated intact vascularized omentum on the brain of monkeys. The omentum was placed directly on the brain following the removal of a large piece of cranium, the opening of the dura mater, and the resection of small pieces of subarachnoid membrane. The monkeys routinely tore open their craniotomy skin incision, which resulted in the subsequent development of large amounts of pus at the operative sites. However, the omentum apparently protected the underlying brain from infection since there was no development of meningitis or of encephalitis. Unfortunately, at that time, this observation was not appreciated as being a direct antibacterial effect.

At the time the laboratory experiments were being conducted, there was no awareness of the omentum's antibacterial possibilities. The antibacterial potential in omental tissue was later confirmed by

placing small pieces of human omentum on petri dishes covered by staphylococcus and e-coli organisms (Figure 1). Knowledge of the existence of an omental antibiotic substance may hopefully stimulate research efforts to identify and isolate this material.



**Figure 1**  
**References**

1. Goldsmith HS, de los Santos R, Vanamee P, et al. Experimental protection of vascular grafts by omentum. Archives of Surgery. 1968; 97: 872-8.
2. Goldsmith HS, Duckett S, Chen WF. Prevention of cerebral infarction in the monkey by omental transposition to the brain. Stroke. 1978; 9: 224-9.