Antibiotic Pasting for Foul Putrefactive Cancers

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OKUYAMA, S. Antibiotic Pasting for Foul Putrefactive Cancers. Tohoku J. Exp. Med., 1995, 175 (4), 289-292 --- Putrefaction of cancers is infrequent. Nonetheless, it presents a difficult clinical problem of foulness. We prepared 5% antibiotic pastes by adding sodium polyacrylate to aliquots of antibiotic solutions, and applied them to putrefactive lesions in 4 cases of rectal cancer, 2 of breast cancer and 1 of tongue cancer. The putrefaction was promptly brought under control in all of them, permitting an improved QOL. Concomitant application of anticancer pastes was also found remarkably effective. Use of sulperazone may offer a better chance of overcoming the β lactamase barrier in cases of prolonged use --- antibiotic pastes; anticancer pastes; putrefactive cancer; sodium polyacrylate; sulperazone

Putrefaction of cancer is infrequent, but it remarkably spoils the quality of life (QOL) of such patients because the accompanying stink estranges them from visitors. Neither systemic antibiotic administration nor topical irrigation with antibiotics nor disinfectants is effective enough in combatting the stink. To overcome such a problem, a topical application of adherent antibiotic pastes was undertaken at a high concentration that would allow them to persist for a prolonged period of time, having in mind our experience of pasting anticancer agents (Mishina et al. 1982; Okuyama et al. 1994). The results were satisfactory enough.

About 300 mg of sodium polyacrylate was added to a 10 ml aliquot of 5% saline solution of sulperazone or pentocillin. Appropriate pastes were obtained after standing for 3 to 4 hr. The degree of viscosity can be adjusted by changing the amount of sodium polyacrylate to 10 ml aliquots of the antibiotic solution.

Seven patients were studied: 4 cases of rectal cancer, 2 of breast cancer and 1 of tongue cancer.

Bacteria recovered from sites of putrefactive infections before the start of the treatment varied widely: Pseudomonas aeruginosa, Staphylococcus epididimidis, Corynebacterium species, α-hemolytic Streptococcus, Enterococcus species, Serratia liquefaciens, Enterococcus faecalis, Klebsiella oxytoca, and Proteus vulgaris. In a case of rectal cancer, Enterobacteria cloacae, Serratia liquefaciens, and Corynebacterium species proved to develop resistance to pentocillin after 4 weeks. They showed a concomitant development of an intermediate resistance to cefoperazone, too.

The foulness was controlled in one or two days of their application and the effectiveness persisted so long as the treatment was continued (Figs. 1 and 2). Even when the treatment was continued beyond several months, there did not emerge any appreciable resistance to sulperazone.

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As soon as the foulness had been brought under control, the estranged patients were again frequently revisited by their friends, thus being improved with their QOL. This can be one of the invaluable benefits of this treatment, too.

To be effective enough, persistent, high antibiotic concentrations should be attained. Potent inhibitory means against β-lactamases should also be incorporated: (1) competitive inhibition as with sulbactam to cefoperazone for sulperazone (English et al. 1978), (2) genetic incorporation of β-lactamase resistance, if possible, or (3) selection of β-lactamase independent agents such as sulfonamides (Fujimura et al. 1994).

The antibiotic pasting is potent not only because of achieving high antibiotic concentrations as high as 50 mg per ml, far exceeding the levels of intravenous use, but also because of adherence to infected tissue for a prolonged period of time. In spite of the emergence of resistance with pentocillin and cefoperazone, sulperazone, a mixture of cefoperazone and sulbactam, the β-lactamase barrier was overcome as predicted (English et al. 1978). It should be mentioned that both sulperazone and pentocillin are relatively cheap.

Noteworthily, the very same technique enables us to treat cancerous masses as illustrated in Fig. 2. Appropriate therapeutic effects were observed with aclacinomycin, cisplatin, bleomycin and pirarubicin. They are not injurious to the extravascular tissue and nearby normal epithelium, and this is especially true with aclacinomycin. Nonetheless, we should be advised to be alert against any clinical and laboratory signs of DIC, especially when a large tumor lies in the depth.

Thus, the present regimens of antibiotic pasting, especially those using antibiotics effective against anaerobic microorganisms and those strategically overcoming the β-
Antibiotic Pasting for Putrefactive Cancers

This technique can be applied to other intractable focal bacterial infections, too. Anti-cancer effectiveness of pasting pirarubicin, cisplatin and bleomycin was also advocated.

References


