May 20th, 12:30 PM

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Comments
Abstract of poster presented at the 2014 UMass Center for Clinical and Translational Science Research Retreat, held on May 20, 2014 at the University of Massachusetts Medical School, Worcester, Mass.

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Cranberry fruit and leaf polyphenols inhibit *Staphylococcus* bacterial biofilms

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Cranberry (*Vaccinium macrocarpon*) is known for urinary tract health benefits associated with reducing the adhesion of *E. coli* bacteria. This property has been linked to cranberry polyphenols known as proanthocyanidins. *Staphylococcus* bacteria are a growing public health concern due to development of resistant strains. Identification of agents that inhibit biofilm formation by these bacteria may provide a new route to reduce infection in clinical settings. Fruit and leaves of North American cranberry (*Vaccinium macrocarpon*) and cranberry juice were fractionated and screened for their ability to prevent biofilm formation by several strains of *S. aureus* and *S. epidermidis* bacteria. MALDI-TOF MS analysis of the most bioactive fractions identified the major constituents as proanthocyanidin oligomers (PACs) with A-type linkages, ranging in size from 2-12 degrees of polymerization. Further characterization by NMR is underway. The polyphenol-rich fractions from cranberry leaf, fruit and juice inhibited biofilm formation by strains of *S. aureus* and *S. epidermidis*, with MBIC as low as 3.1 μg/mL, and without significant bacteriocidal activity. Thus, compounds from cranberry fruit, plant material and juice may be useful in reducing *Staphylococcus* biofilms without promoting resistance.