

## Re: Double Blind Bind

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**From:** hickwithverylitlelyme (*hickwithverylitlelyme\_at\_somewhere.net*)

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Date: Sat, 12 Jun 2004 09:25:06 -0400

OTHER FAR MORE REPUTABLE LABS HAVE PROVEN DIFFERENTLY

CASE CLOSED.....

CIPIRO SALES PITCH.....

<William@Occam.com> wrote in message  
news:0qtlc0ppr60tqt22p94sfre8p89pik1s8p@4ax.com...

> *Have you read the articles that I posted recently?*

>

> *Here's some of the text from J. Wound Care. (2004) 13:154-155. Note  
> the use of ASAP.*

>

> *Three samples of colloidal silver were tested:  
> . One sample which is available commercially on  
> the internet*

> *. Two samples which were prepared in our laboratory  
> using standard chemical methods, whereby a  
> silver nitrate solution was reduced with either  
> tannic acid or sodium citrate.*

>

> *The commercially available sample was the ASAP  
> Sporidical Strength solution (lot: 030337, expiry  
> date: February 2005), labelled as containing 22ppm  
> silver in purified water. The particle size is about  
> 10nm (manufacturer's specification). This was provided  
> for research purposes by American Biotech  
> Labs (Alpine, Utah, USA).*

>

> *The reduction with tannic acid was carried out  
> using the procedure described by James.14 To 500ml  
> of doubly distilled water, 20ml of 0.1M silver nitrate  
> solution and 5ml of 0.1% tannic acid solution were  
> added. The mixture was heated to 70-80°C, and  
> 10ml of 1% sodium carbonate solution was added  
> to portions that were continually stirred, yielding a  
> clear, tea-coloured, colloidal silver solution.  
> The third sample was prepared according to the*

- > *method described by Bell and Myrick.15 500ml of*
- > *3.83 x 10<sup>-3</sup> M silver nitrate solution in doubly distilled*
- > *water was heated to boiling point, and 3ml of*
- > *0.442M sodium citrate was added to it drop by drop*
- > *over one hour, during which time the solution was*
- > *stirred vigorously, producing a cloudy, greyish colloidal*
- > *solution. This was then boiled for one hour,*
- > *cooled and its volume made up to 500ml with distilled*
- > *water.*
- >
- > *Transmission electron microscopy was used to*
- > *determine the size of the silver particles. The solution*
- > *prepared with tannic acid had particles of*
- > *10–30nm in size, while those in the solution prepared*
- > *with sodium citrate were 20–50nm.*
- > *The 22ppm, 403ppm (with tannic acid) and*
- > *413ppm (with sodium citrate) colloidal silver solutions*
- > *were tested using the agar–well diffusion assay.*
- > *Ciprofloxacin 0.3% eye/ear solution (Deepak Enterprises,*
- > *New Delhi, India) was used as the control*
- > *agent. The test organisms were:*
- > *. Staphylococcus aureus NCTC–08532*
- > *. Pseudomonas aeruginosa NCIMB–8626*
- > *. Escherichia coli NCIMB–8545*
- > *. Proteus mirabilis NCTC–11938*
- > *. Bacillus cereus NCTC–02599*
- > *. Aspergillus niger (our own isolate).*
- > *Mueller–Hinton agar CM337 (Oxoid, Basingstoke,*
- > *UK) was used to culture the organisms. Microorganisms*
- > *(Staphylococcus aureus, Pseudomonas aeruginosa,*
- > *Escherichia coli and Proteus mirabilis) cultured from*
- > *the ears of consenting patients with chronic suppurative*
- > *otitis media were also included in the test.*
- > *The plates were seeded with the test organisms,*
- > *and 150µl of each test agent was transferred into*
- > *the wells. In addition, an agar–disk diffusion assay*
- > *was performed with a standard set of antibiotics in*
- > *Mastring–S M41 disks (Mast Diagnostics, Mast Laboratories,*
- > *UK). After 24 hours of incubation, zones*
- > *of inhibition on the plates were measured.*
- > *In another test series, the standard test procedure*
- > *of the Association of Official Analytical Chemistry*
- > *was used to compare the phenol coefficient against*
- > *colloidal silver and two disinfectants:*
- > *. Savlon (Novartis)*
- > *. Ethanol (absolute, 99%).*
- > *Phenol coefficient is a numerical value that compares*
- > *the bactericidal concentration of a disinfectant*
- > *with that of phenol. This value is obtained by dividing*
- > *the greatest dilution of disinfectant capable of*
- > *killing bacteria in 10 minutes by the greatest dilution*

- > of phenol showing the same results.
- >
- > Test bacteria were *Pseudomonas aeruginosa*
- > NCIMB–8626 and *Staphylococcus aureus* NCTC–
- > 08532. Bacterial growth was monitored in nutrient
- > broth CM1 (Oxoid, Basingstoke, UK) by visual
- > inspection of turbidity in the test tubes.
- >
- > Results
- > None of the three colloidal silver solutions tested
- > had any effect on the growth of the test organisms,
- > including *Aspergillus niger*, in the agar–well diffusion
- > assay. All of the test bacteria were sensitive to
- > ciprofloxacin, with zones of inhibition of 29–48mm
- > (after subtraction of the well diameter of 5mm), and
- > to one or more of the standard antibiotics.
- > Colloidal silver 22ppm also showed no bactericidal
- > activity in the phenol coefficient tests. Phenol
- > coefficients of Savlon for *Staphylococcus aureus* and
- > *Pseudomonas aeruginosa* were 3.75 and 1.11 respectively;
- > for ethanol they were 0.04 and 0.03.
- >
- > Discussion and conclusion
- > These results show that colloidal silver does not
- > demonstrate any antibacterial potency when tested
- > in vitro using standardised methods.
- > Our results are in accordance with those of Spratt
- > et al., who reached the same conclusions with a different
- > set of bacterial isolates.<sup>16</sup> In their study the
- > bactericidal effect of 5ppm colloidal silver, 2.25%
- > sodium hypochlorite, 0.2% chlorhexidine, 10%
- > iodine and phosphate–buffered saline as a control
- > was investigated against single–species biofilms of
- > *Prevotella intermedia*, *Peptostreptococcus micros*,
- > *Streptococcus intermedius*, *Fusobacterium nucleatum*
- > and *Enterococcus faecalis*. Hypochlorite, chlorhexidine
- > and iodine had a bactericidal effect against all
- > strains. Colloidal silver was generally ineffective,
- > even after one hour of contact with the biofilms.
- > We can only speculate about the positive laboratory
- > results presented on the internet. These might
- > be related to impurities of the solutions and the
- > presence of silver ions and oxidising agents resulting
- > from the ionisation of the water by an electric
- > current. Silver ions from silver salts such as silver
- > nitrate and from preparations such as silver sulphadiazine
- > that slowly release them have a strong bactericidal
- > activity.<sup>1–4</sup> This is in contrast to the absence
- > of antimicrobial effects in metallic colloidal silver.
- > Silver,<sup>8</sup> who performs fundamental research on
- > the genetics of silver resistance of silver–binding

- > *bacteria, warned that 'the wide and uncontrolled*
- > *use of silver products may result in more bacteria*
- > *developing resistance, analogous to the worldwide*
- > *emergence of antibiotic and other biocide-resistant*
- > *bacteria'.*
- >
- > *Since colloidal silver did not show any antimicrobial*
- > *effect in vitro on common pathogenic microorganisms,*
- > *claims of its potency are misleading and*
- > *there is no place for it as an antiseptic.*