in the prior art discussed in the Background section or associated with such subject matter should not be treated as prior art unless expressly stated to be prior art. Instead, the discussion of any subject matter in the Background section should be treated as part of the inventor's approach to the particular problem, which in and of itself may also be inventive.

SUMMARY

[0006] The present disclosure describes the combination of colloidal silver particles and botulinum toxin. In one aspect the present invention refers to a composition comprising botulinum toxin (BTX), colloidal silver particles and water. In another aspect, the present invention refers to a kit comprising a container comprising botulinum toxin (BTX) and a container comprising colloidal silver particles and water, wherein BTX, the colloidal silver particles and water are to be mixed for cosmetic treatment or medical treatment. In yet another aspect, the present invention refers to a cosmetic treatment comprising administering botulinum toxin (BTX), colloidal silver particles and water to a subject in need thereof. In a further aspect, the present invention refers to botulinum toxin (BTX), colloidal silver particles and water for use in medical treatment. In some examples, the present disclosure discloses compositions, kits, and methods of use that include both colloidal silver particles and botulinum toxin. For instance, in one example, the present disclosure describes compositions comprising botulinum toxic and colloidal silver particles, including the following examples:

1) A composition comprising botulinum toxin (BTX), colloidal silver particles and water.
2) The composition of embodiment 1 wherein the BTX is botulinum type A neurotoxin.
3) The composition of embodiment 1 wherein the BTX is botulinum type B neurotoxin.
4) The composition of embodiment 1 comprising 100-600 units of BTX.
5) The composition of embodiment 1 comprising a concentration of colloidal silver of 1 to 100 ppm.
6) The composition of embodiment 1 wherein the colloidal silver is characterized by particle size, and more than 50% of the colloidal silver particles have a maximum dimension of less than 0.015 micrometers.
7) The composition of embodiment 6 wherein at least 90% of the colloidal silver particles have diameters between 0.005 micrometers and 0.015 micrometers.
8) The composition of embodiment 1 wherein the colloidal silver particles comprise metal silver of formula Ag(0) and ionic silver of a formula selected from Ag(I), Ag(II), and Ag(III).
9) The composition of embodiment 1 having a total concentration of silver of between about 5 and 40 parts per million, wherein said silver is in the form of a stable and colorless colloidal suspension of silver particles having an interior of

metallic silver and an exterior surface of ionic silver oxide, wherein at least 75% of the silver particles have diameters between 0.005 micrometers and 0.015 micrometers.

[0007] In one example, the present disclosure provides a kit that comprises both botulinum toxin and colloidal silver particles in separate containers. For instance, the present disclosure provides the following exemplary embodiments:

10) A kit comprising a container comprising botulinum toxin (BTX) and a container comprising colloidal silver particles and water.

11) The kit of embodiment 10 further comprising a needle and syringe suitable for transferring the colloidal silver particles to the container of BTX.

[0008] In another example, the present disclosure provides methods of using botulinum toxin (BTX) and colloidal silver particles. For instance, the present disclosure provides the following exemplary embodiments:

12) A cosmetic treatment comprising administering botulinum toxin (BTX), colloidal silver particles and water to a subject in need thereof.

13) A medical treatment comprising administering botulinum toxin (BTX), colloidal silver particles and water to a subject in need thereof.

[0009] The details of one or more aspects and embodiments are set forth in the description below. The features illustrated or described in connection with one exemplary embodiment may be combined with the features of other embodiments. Other features, objects and advantages will be apparent from the description, and the claims.

DETAILED DESCRIPTION OF THE INVENTION

[0010] Briefly stated the present invention provides the combination of colloidal silver particles and botulinum toxin, including kits, compositions and methods of use thereof.

Colloidal Silver Particles

[0011] The terms "colloidal silver particles" or "colloidal silver" refers to particles which in whole or in part comprise silver, where the particles are colloidally suspended in an aqueous medium. The total amount of colloidal silver particles in a composition is typically between 1 and 100 ppm. In optional embodiments, the content of colloidal silver particles in the composition is about 30 ± 5 ppm, or 25 ± 5 ppm, or

CLAIMS

What is claimed is:

1. A composition comprising botulinum toxin (BTX), colloidal silver particles and water.

2. The composition of claim 1 wherein the BTX is botulinum type A neurotoxin.

3. The composition of claim 1 wherein the BTX is botulinum type B neurotoxin.

4. The composition of claim 1 comprising 100-600 units of BTX.

5. The composition of claim 1 comprising a concentration of colloidal silver of 1 to 100 ppm.

6. The composition of claim 1 wherein the colloidal silver is characterized by particle size, and more than 50% of the colloidal silver particles have a maximum dimension of less than 0.015 micrometers.

7. The composition of claim 6 wherein at least 90% of the colloidal silver particles have diameters between 0.005 micrometers and 0.015 micrometers.

8. The composition of claim 1 wherein the colloidal silver particles comprise metal silver of formula Ag(0) and ionic silver of a formula selected from Ag(I), Ag(II), and Ag(III).

9. The composition of claim 1 having a total concentration of silver of between about 5 and 40 parts per million, wherein said silver is in the form of a stable and colorless colloidal suspension of silver particles having an interior of metallic silver and an exterior surface of ionic silver oxide, wherein at least 75% of the silver particles have diameters between 0.005 micrometers and 0.015 micrometers.

10. A kit comprising a container comprising botulinum toxin (BTX) and a container comprising colloidal silver particles and water, wherein BTX, the colloidal silver particles and water are to be mixed for cosmetic treatment or medical treatment.

11. A cosmetic treatment comprising administering botulinum toxin (BTX), colloidal silver particles and water to a subject in need thereof.

12. Botulinum toxin (BTX), colloidal silver particles, and water, for use in a medical treatment.