Controlled Release Society’s 37th Annual meeting and Exposition

Portland, Oregon, USA

Barbara Buchan
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Overview

The Controlled Release Society’s Annual conference 2010 was held in Portland, Oregon, USA. Over 1400 people attended the conference, with over 100 exhibitors. This prestigious conference focussed on pharmaceutics, and was attended by students, scientists, physicians, healthcare professionals and instrument manufacturers from around the world.
Main points of the conference

Events attended

- Young scientist workshop – career development
- Controlled ocular drug delivery systems in posterior disease
- Controlled ocular drug delivery in the anterior of the eye
- Pearls of wisdom – bioactive materials
- Women in science lunch
- Scientific sessions: pulmonary drug delivery

Conference presentations – points raised

- Ophthalmic preparations should test pKa, Osmolarity, contact angle (spreadability), gamma scintigraphy.
- Carbomer 934 is irritating to mucosal membrane (only if pH unadjusted).
- Accumulation of microspheres in the lung?
- Below 10 micrometers, gravity becomes less of a factor, and static/van der waals rules.
- Rumpf 1967 – characterized dispersity.
- Different morphology gives varying morphology to microspheres.
- Lactose as a carrier fading to zero use in the future.
- Lymph nodes of lungs primary distributor of microspheres, regardless of size.

Trade stands

- Transmission Electron microscopy (TEM) can show not only the size of a micro particle, but also its 3D structure.
- Lactel ® absorbable polymers can produce a polymer tailored to our specific needs
- Gamma scintigraphy is available for both inhaled and ophthalmic products, and there is no minimum trial size.
- Micro-Sphere Sa, based in Switzerland, can produce GMP-level microspheres for human administration.
- Patheon ™ can manufacture eye gels and suppositories for clinical trials, but not microspheres for inhalation.
- Sympatec manufacture a particle sizer which breaks up agglomerated clumps of powder before testing, and is useful for microspheres subject to static. It can also analyze down to 0.1micrometer in size.
- Cydex pharmaceuticals can formulate any insoluble drug into almost any form (inquired with the old prodrugs in mind).
- Spraying Systems Co® can supply smaller spray drier nozzles for our equipment to improve our particle size control.
Scientific focus

Attending the Controlled Release Society’s 37th Annual Meeting and Exposition in Portland, Oregon highlighted some interesting points relating both to past work, and also possibilities for future work. There were young scientist workshops focusing on career development and ophthalmic delivery, and also scientific sessions on pulmonary drug delivery.

Among many highlights was a technique called gamma scintigraphy, which ‘tags’ the eye gel or respiratory powder with a dye to make it easier to trace upon installation. This company, based in Glasgow, also runs these clinical trials on human volunteers, and may be the first step in bringing a product to market. Transmission Electron Microscopy (TEM) is another technique for analysis, and can show not only the size of a micro particle, but also its 3D structure. This may be useful for fully characterizing and improving the respiratory powders. Lactel® absorbable polymers is a company which can produce a polymer tailored to our specific needs, while Spraying Systems Co® can supply smaller spray drier nozzles for our equipment to improve our powders for inhalation. There were also other companies who can manufacture all types of formulations to a high quality and standard required for clinical trials. It is my hope that my work will be continued to the clinical trial stage and beyond, either by myself or others, in order that it might bring benefits to cystinosis patients and their families.
Details of the event

I have recently returned from the 37th meeting and exposition of the Controlled Release Society 2010, held in Portland, Oregon, USA, which Cystinosis Foundation UK kindly funded. I was accepted to display a poster on sustained-release eye gels for cystinosis.

The conference was extremely relevant to me, focusing on formulation. There were an expected 1900+ attendees. I have never attended such a large and prestigious conference, and I was spoilt for choice in the program of events. I think attending such a conference in the final few months of my PhD allowed me to get as much out of the trip as I could.

After setting up my poster, I was quickly approached by attendees, and within my one hour of designated attendance I was asked over 20 questions on my work, some of which raised points I hadn’t considered. One person came back twice to see the poster, and another praised the quality of my writing. I hope to have introduced a new field of people to cystinosis.
Subsequently I attended a ticket-only event for women, which was inspirational. I watched many lectures on my subject area, and spoke with a large number of company representatives about my work. I got ideas for my PhD write-up, and also for post-doc work. I also attended round-table discussion sessions and debates, and it was exciting to hear experienced scientists talk enthusiastically about something which they believed in. I attended many interesting lectures on my area of interest, and made me aware of potential post doc work. I also learnt about the CRS mentoring scheme, which pairs a young scientist with an experienced mentor, in order to impart some knowledge and experience as they begin their career. Since returning home, I have had numerous emails and requests from people who I met at the event, giving me quotes or asking for more information. I feel more prepared now for my PhD write up, and have grown in confidence after the experience. I have been inspired by the speakers I have seen, and have lots of fresh ideas, both for my PhD write up and future work. The experience has also given me confidence in my own abilities as I move toward new challenges. It was particularly good and encouraging to meet so many enthusiastic scientists, and I hope this helps to launch me into the profession which I enjoy so much.
CONCLUSIONS

Fig 1. Chemical structure of Ginkgo biloba extract.

Fig 2. Formation of protective co-monomer gel.

Fig 3. Rheological profile of the gels.

METHODS

RESULTS

Fig 4. Formulation and evaluation of cytozyme for optimal delivery.

OBJECTIVES