DEPARTMENT OF HEALTH & HUMAN SERVICES

PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH

FOR US POSTAL SERVICE DELIVERY:
Office of Laboratory Animal Welfare
6700B Rockledge Drive, Suite 2500, MSC 6910
Bethesda, Maryland 20892-6910
Home Page: http://grants.nih.gov/grants/olaw/olaw.htm

FOR EXPRESS MAIL:
Office of Laboratory Animal Welfare
6700B Rockledge Drive, Suite 2500
Bethesda, Maryland 20817
Telephone: (301) 496-7163
Facsimile: (301) 402-7065

June 10, 2019

Re: Animal Welfare Assurance
#A4261-01 (OLAW Case O)

Mr. Mike Broadhurst
General Manager and Institutional Official
Altasciences Preclinical Seattle, LLC
(formerly SNBL USA)
6605 Merrill Creek Parkway
Everett, WA 98203

Dear Mr. Broadhurst,

The Office of Laboratory Animal Welfare (OLAW) acknowledges receipt of your May 30, 2019 letter and attachment containing the report of an adverse event within your animal care and use program that occurred on April 8, 2019. According to the information provided, OLAW understands that an approximately 9.3kg Gottingen minipig died of circulatory failure resulting from cardiac tamponade during a thoracic inlet blood collection procedure. Although the procedure was performed by two experienced technicians, multiple unsuccessful needle insertions were attempted. Necropsy results did not indicate trauma to any tissue or blood vessel in the thoracic inlet region. This animal was supported by PHS (BARDA) funds.

Corrective and preventive actions included the PI immediately suspending blood collection from the thoracic inlet. Blood collections are now collected from a peripheral vein unless it's a terminal collection. The applicable SOP will be updated to: further define and limit the number of blood collection attempts; limit the collection site to the right side of the animal unless it is a terminal collection, and; draw from the cranial vena cava only when necessary or the volume of blood requires collection from the cranial vena cava. The Time Out campaign will be discussed with staff and the acclimation training requirements for swine prior to a thoracic inlet blood collection will be reviewed and revised.

The prompt consideration of this matter by Altasciences was consistent with the philosophy of institutional self-monitoring, self-reporting and self-correction. Similarly, the actions taken to resolve the issue and prevent recurrence were appropriate. We appreciate being informed of this matter and find no cause for further action by this office at this time.

Sincerely,

(b) (6)

Brent C. Morse, DVM
Director
Division of Compliance Oversight
Office of Laboratory Animal Welfare

cc: IACUC Contact
Dr. Robert M. Gibbens, USDA, APHIS, AC
Bai Nguyen (OS/BARDA)

A4261

ALTASCIENCES

Thursday, May 30, 2019

Brent Morse, DVM
Director
Division of Compliance Oversight
Office of Laboratory Animal Welfare
National Institutes of Health
RKL1, Suite 360, MSC 7982
6705 Rockledge Dr
Bethesda, MD 20892-7982

Report of Adverse Event – Pig death during blood collection

Dear Dr. Morse,

This letter is to follow up on an adverse event that occurred on 08Apr2019. Please see the attached animal welfare investigation for details on the incident and our follow up actions. Please note that the corrective actions listed in the report are in the final completion steps and will be completed by the end of June.

Please don't hesitate to contact myself or Dr. Bruce Bernacky, (b) (6) (BBernacky@altasciences.com) for any follow up questions.

Sincerely,
(b) (6)

Mike Broadhurst
General Manager
Institutional Official
Altasciences Preclinical Services
(b) (6)

cc: IACUC Administrator

Summary and Corrective/Preventative Actions Associated With [redacted] from 08Apr2019

I. Summary:

On 08Apr2019, a Gottingen minipig (5 months old, male, approximately 9.3kg) died unexpectedly during a routine blood collection at approximately 10:00am.

II. Findings:

The blood collection was performed by [redacted], with [redacted] as the restrainer, and [redacted] as the technician performing the blood collection. The technicians were performing the blood collection from the thoracic inlet, starting on the left side of the pig, using a 23g ¾" needle with a 12mL syringe.

The animal was not acting any differently from any of the other animals but did struggle moderately during the attempts. The animal had 5 instances over 6 days of acclimation training prior to the attempt (2 for human interaction, and 3 for clicker/treating). Each time the animal struggled, the technician did not attempt to maintain needle insertion during the times that the animal was struggling, rather, the technician removed the needle when the animal struggled. The animal was given breaks to settle down in between attempts. The animal vocalized some, but not out of the ordinary and breathing was normal. ~3-4 attempts were made on the left side of the animal, and one on the right. At that point, a decision was made to switch roles, and [redacted] switched positions with [redacted] It was at that point that the animal went limp and became unresponsive. The entire sequence of events took approximately 10 minutes.

III. Assessment:

Both technicians are very proficient in the procedure, and [redacted] is also a trainer for this procedure. This technique is routinely performed at the facility, and until now, without any incidents. On the day of the incident, an [redacted] who is also a lead trainer in this procedure was observing prior to and after the incident. [redacted] was not present at the time of the incident but had noted that the two technicians were working very well together and were very skilled at the procedure. He had no concerns about the procedure.

At necropsy, 35mL of blood was found in the pericardial sac. The pathologist stated that probable cause of death was due to cardiac tamponade (which puts pressure on the heart and keeps it from filling properly). Upon initial inspection, there was no trauma to any tissue or blood vessels found in the thoracic inlet region to indicate that the volume of blood was due to a torn vessel.

It was noted that the technicians started on the left side of the neck. According to recommendations from [redacted] (a vendor for research swine), the right side of the neck is the preferred side for blood collections. The nerves (vagal and recurrent laryngeal nerves) on left side of the neck are more prevalent.

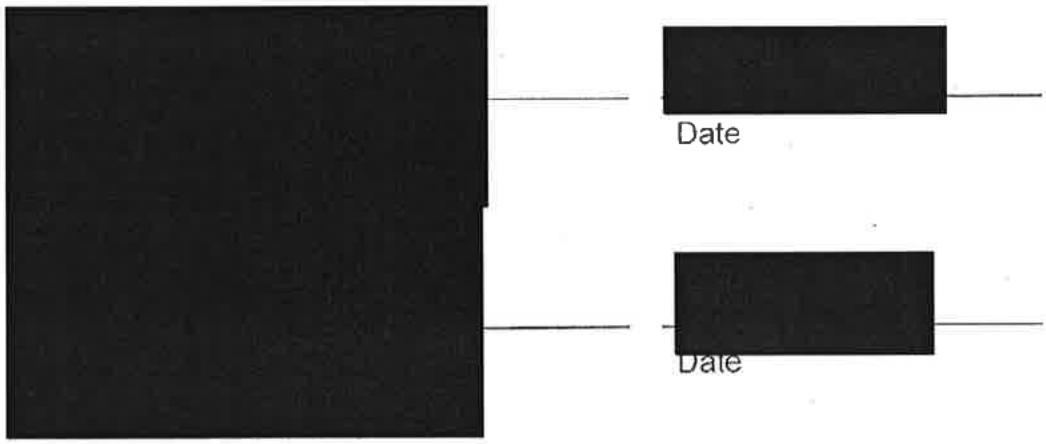
IV. **Corrective and Preventative Actions:**

Immediate action was taken by the study director to suspend blood collections from the thoracic inlet until an assessment could be made. Blood collections already scheduled are now collected from a peripheral vein, unless it is a terminal collection.

Preventative actions to be taken:

- The SOP for blood collections will be updated:
  - Limit the blood collection attempts to 3 per technician. Staff are currently trained to only make three attempts, but it needs to be clarified that the 3 three attempts is per technician (not per site) and will be formalized in the SOP.
  - Limit the blood collection procedure to only the right side of the pig, unless it is a terminal collection.
    - Discuss with technicians the anatomy of the area, including nearby veins, nerves and arteries.
    - Draw from the cranial vena cava only when necessary (e.g. blood volume).
- Recommended training exercise: Discuss the Time Out campaign with staff. Could this animal have used a time out? Did the blood collection need to be drawn that day, and at that time, or could it have waited?
- Review and revise the acclimation training requirements for swine prior to a blood collection in the thoracic inlet.

V. **Final Animal Welfare Incident Report Signatures**



Morse, Brent (NIH/OD) [E]

From: Morse, Brent (NIH/OD) [E]
Sent: Monday, June 03, 2019 12:37 PM
To: (b) (6)
Cc: Bruce Bernacky; Mike Broadhurst
Subject: RE: Follow up on adverse event

Thank you for sending this final report (b) (6) We will send an official respons soon.

Best regards, Brent Morse

Brent C. Morse, DVM, DACLAM
Director
Division of Compliance Oversight
Office of Laboratory Animal Welfare
National Institutes of Health

From: (b) (6)
Sent: Thursday, May 30, 2019 6:11 PM
To: Morse, Brent (NIH/OD) [E] <morseb@mail.nih.gov>
Cc: Bruce Bernacky <BBernacky@altasciences.com>; Mike Broadhurst <mbroadhurst@altasciences.com>
Subject: Follow up on adverse event

Good Afternoon Dr. Morse,

Please see the attached letter and report to follow up on the adverse event that was reported to you last month.

Feel free to reach out if you have any questions.

Thank you,

(b) (6)

A4261-0

Office of Laboratory Animal Welfare
OLAW

Initial Report of Noncompliance

By: BM

Date: 4/10/17 Time: 2:35

Name of Person reporting: Bruce Bernacky, A/V
Telephone #:
Fax #:
Email:

Name of Institution: Altasciences (formerly SNBL)
Assurance number: A4261

Did incident involve PHS funded activity? BARDA ← copy BARDA on final letter
Funding component: _____
Was funding component contacted (if necessary): _____

What happened? 10:00 PST, attempt to bleed a 9Kg Gottingen pig. ~35ml fresh blood in pericardial sac.

Species involved: Sus scrofa
Personnel involved: Research
Dates and times: 4/8/19
Animal deaths: Yes

Adverse event.

Projected plan and schedule for correction/prevention (if known): _____
After May's IACUC meeting

Projected submission to OLAW of final report from Institutional Official:

OFFICE USE ONLY
Case #_____