Hi Abdul: Here are some references for you to look over. Many are older references, but this is when the majority of the research was done. Wedge biopsy will definitely make it easier to see the vessels on the surface of the tunica but you can expect more damage to the parenchyma as a result. You could also extend your skin incision when using the needle to expose more tunica and then chose the location for your needle to enter, thereby preventing puncture into a vessel. Almost all the biopsies we did were in dogs and stallions, so I don't have much experience in bulls (n=2 if memory serves). However, with practice, as I said previously, our sample size (in dogs and stallions) was always large enough to have a minimum of 100 tubules, which was adequate for statistical analysis in our studies. I never tried the Biopry instrument, so don't know how difficult it is to get sample with it. Don't think there is any info out there about using one of the core biopsy tools, as far as I know.


Hope that helps.

Cheryl
On 9 Nov 2005 at 11:23, Kastelic, John wrote:

Dr. Drost

Would you do this on the anterior or the posterior side of the testis? It would be easier to access the posterior side but that has more of those superficial vessels.

In previous studies, we used needle thermocouples (made from 18 gauge, 1.5 inch long injection needles) to measure intratesticular temperatures. Under the influence of a xylazine caudal epidural (that gave us profound analgesia), we inserted these through the scrotal skin and into the testicular parenchyma. In most cases, the point of insertion was the posterior surface of the scrotum, with the needle parallel to the ground and to the spinal cord. We were doing acute measurements, followed by recovery of the testes at castration or slaughter. In many cases, there was considerable hemorrhage induced by the needle. Obviously, we did not have the advantage of visualizing the blood vessels and avoiding them. We never attempted entry from the anterior aspect of the scrotum, but I speculate that this would result in less bleeding. Regards John K.

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Rob Lofstedt
To: ACTList@theriogenology.org
Subject: Biopsy of bull's testicle
Date sent: Wed, 09 Nov 2005 12:26:29

Thank you guys for your input regarding the testicular biopsy. The question is for Dr. Lopate: I obtained testicular tissue using the true-cut needle and it was enough to view different sections of the semiferferous epith., but not enough for what I need for my research. I am still looking at something that will give me a bigger piece of tissue at the same time will not affect spermatogenesis and with minimal side effects as I will be using the semen from these bulls for research. Also I looked at the biopsy instrument, will not give enough tissue too!!!!
????????? I am thinking of using a wedge biopsy. Or use a core biopsy tool as it will give me more tissue but I was unable to find any thing in literature about using this technique and it's impact on spermatogenesis!!!!
Any suggestions????
have a good day
Abdul Aljarrah, DVM, MS, Diplomate ACT
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Dr Aljarah
I second Dr Wagner's comments. It is difficult to avoid the large
blood vessels on the tunica albuginea, especially in the bottom half
of the testicle of the bull. An open wedge biopsy therefore is the
answer. Relatively simple to do. Incise down to the white tunica. You
will readily see the bloodvessels. Make a 1cm incision in the tunic
between the vessels and the testicular parenchyma will bulge due to
intratesticular pressure. Snip off a piece. Close the tunic with 2 or
3 simple interrupted sutures. Close the skin. There should be no
hemorrhage. You can practice on some slaughter house testes.
Success
maarten drost
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Hi All:
I am taking testicular biopsies from bulls for research. I took one
biopsy
from one bull only as I could not get enough tissue using the true-cut
needle tool. I am wondering if you know if there is a biopsy tool but a
non-invasive one for this purpose.
Thanks
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Printed for Rob Lofstedt, 9 Nov 2005, 12:26 Page 1 of 2
Good afternoon.
I have taken several testicular biopsies from bulls using the "Biopty"
needle biopsy instrument. This is a spring-loaded device that shoots
the needle out and back extremely quickly. The tissue sample is
minimally distorted, and useful for histological examination.
I did it with the bulls standing, but heavily sedated. I put a bleb of
lidocaine under the scrotal skin, and made a small skin-only incision on
the cranio-later-dorsal aspect of the testis to be biopsied. (This area
corresponds to the area with least conspicuous superficial blood vessel
presence.)
The bulls seemed to cope quite well. However, for one group, I
castrated them soon after a biopsy. I was amazed at the extent of local
hemorrhage, even though there was little or nothing discernable
externally. Also, for this group (that had been biopsied several times)
the testis was certainly still functional, but each previous biopsy
attempt had left obvious scar tissue tracts.
So, I think the procedure in bulls is less harmful than some published
reports suggest, but it is not innocuous. I would probably advise it
only for research, and only reluctantly for clinical use in breeding
bulls.
Greetings to all,
Rob Gilbert.
-----------------------------------------------------------------------
Greetings,
I want to alert people to findings by Dr. Kenneth
McEntee and myself back in the 50's and 60's. Needle
biopsy procedure is contraindicated due to the fact
that the blood supply to the testis of the bull moves
from external to the center of the testis. Thus, a
very small damage to a surface artery will result in
an expanding wedge of infarct as you proceed
centrally. During the time I worked with Ken, we were never able
to avoid this sort of lesion and basically gave up on
doing needle biopsy procedures in the bull.
Bill Wagner
Printed for Rob Lofstedt, 9 Nov 2005, 12:26 Page 2 of 2
Hi Abdul,

I wonder how representative a small biopsy sample is. We see on ultrasound that most of testicular lesions are localized. This also seems to be the case in old bulls that show fibrotic degeneration that seems to progress from the ventral to the dorsal portions of the testes. I do not know what exactly you want to evaluate on the biopsy sample, but if semen quality is crucial to your study, I would suggest staying away from biopsy.

Leo Brito

Hello Brito:
We are doing FISH for round spermatids and we need alot of sections of the tubules as will as we will be using semen from these bulls later on for research.
Thanks Brito
Abdul

"leonardo brito" <lfcbrito@lycos.com>@theriogenology.org on 11/09/2005 04:27:02 PM