

# MY JOURNEY TO THE CAMEL SCIENCE FROM DEVELOPING CAMEL SURGERY TO PUBLISHING AND EDITING THE JOURNAL OF CAMEL PRACTICE AND RESEARCH

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My journey to becoming a camel vet started in 1975 by seeking admission to my Almamater, which deserves umpteen times salutation to make me a face in the crowd. My schooling for most of the time till class X<sup>th</sup> was in the rural side where my father served as a Medical Doctor and often traveled on camel back or camel cart to see patients from one village to other. Many villages had no roads at that time and camel or camel cart was a popular transport in the villages. My father recalls my fall from a tree directly in the roughage sack lying in front of a sitting camel. I was not attacked by the camel and it was considered as a blessing from a camel to a future camel vet. After joining the graduation course of Veterinary and Animal Sciences I studied the anatomy and physiology of camel and found that it was different from other desert ruminants. I started realising that the veterinary profession is highly challenging from view point of acquiring knowledge and treating diverse species ranging from cat to camels and even birds, wild and zoo animals. Later, during my study of veterinary science I was amazed to learn that camels have only three compartments of stomach (whereas ruminants have four compartments), well-developed chest pad (camels), soft palate diverticulum (male camels), remarkable digital cushion and so on. Being different from ruminants, I learnt that camels were categorised physiologically as pseudoruminant. These unique features of camel arouse my interest in this desert species.

## Becoming a Camel Surgeon

As the graduation programme reached its last leg and my professional knowledge was enriched at the same time, I started feeling my interest and inclination toward veterinary surgery. While learning

it I found that camel surgery was least studied and needs to be developed and moreover, there were no books on camel surgery whereas surgical cases in camels were coming every day and it was a big challenge for the veterinary surgeons. Majority of these cases were mandibular fractures, soft palate injuries, lacerated nostrils, saddle gall, chest pad injuries, tail gangrene, arthritis, foot injuries, etc. The biggest failures were in the management of mandibular fractures where both the lips get apart following lower jaw fracture, the camels were unable to prehense, and such animals were sometimes abandoned as there was no appropriate treatment. I took it as challenge and started studying anatomy of mandible of camels by bringing some mandible bones from the carcass centres. I found that interdental wiring could be the most practical approach. I started attempting it in the clinical cases, initially with a 2mm thick silver wire and later, it was replaced with copper wire as it was cheap, available easily and provided more stable knots without incidences of breaking the wire while tightening these. From 1980 onwards, we conducted many clinical trials and found great success in immobilising mandibular fractures with interdental wiring (IDW) and later other techniques were also developed to treat oblique or multiple fractures of horizontal ramus, i.e. transfixation technique with a fibre cast. Mandibular fractures started getting healed in 6-8 weeks with IDW technique. It was highly economical, and camels were discharged from the hospital same day or a little later, depending upon the clinical situation. Initially, we used triflupromazine hydrochloride, which was a tranquiliser, but later replaced with xylazine when it became available in Indian markets. The clinical research on camel surgery, anaesthesia and imaging (soft these and orthopedics) were published in reputed journals and presented

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at national and international conferences. It drew the attention of camel vets from many countries in the Middle East and South Asia. I started receiving invitations from the international camel conferences being organised in different countries. My growing interest in camel surgery led to its development and many papers were published on this challenging subject of camel surgery. I published the first book on camel surgery in 1992.

### **Initiated authoring camel books and the Journal of Camel Practice and Research**

I continued performing camel surgery at my alma mater in Bikaner till my superannuation. I demonstrated camel surgery at College of Veterinary Sciences, Hisar, India also while pursuing my doctorate programme there from 1987 to 1989. At Hisar, I met my another mentor- Prof Jit Singh, then HOD of Veterinary Surgery and Radiology and my guide in PhD programme. He was a perfect surgeon and academician who edited my camel books and guided me about the ethics of an editor while launching the Journal of Camel Practice and Research in 1994. I published my first book on surgery 'Camel Surgery' in 1992, and later, a chapter on camel surgery in the book "Selected Topics on Camelids" in 2000. I met famous camel surgeon, late Dr. R.O. Ramadan of King Faisal University, Al Hasa, Saudi Arabia, at the International Camel Conference held in Dubai in February 1992. He purchased the first copy of my book on Camel Surgery, and later, he also authored books on camel surgery. He became my good friend and sponsored my tours to the Camel Conferences held at King Faisal University, Saudi Arabia. Camel scientists at KFU popularly called us two doyens of camel surgery. Later, camel surgery improved with good research on the anaesthesia and the imaging sectors as well. Department of Veterinary Surgery and Radiology, College of Veterinary and Animal Science, Bikaner, India became a popular hub of camel surgery at the global level. I am still consulted to treat sick camels at various camel ranches in the USA and rescue centres in India.

### **Collaborated with Dr Cedric Chen of Dubai Camel Hospital**

The first appointed surgeon of Dubai Camel Hospital- Dr Cedric Chan also met me and visited camel clinic at Bikaner in 2016. He appreciated the knowledge and practice of staff here, specially in the camel surgery.

### **Collaborated with LPPS**

I recall a great association with Dr Ilse Kohler Rollefson and Hanwant Singh of Lokhit Pashu

Palak Sansthan (LPPS) located at Sadri, Pali District, Rajasthan. Dr Ilse extended a financial support to the first issue of Journal of Camel Practice and Research and continued a column, i.e. "Pastoralist Perspective" in JCPR for many years. I was honoured by "Camel Saviour Award" by Dr Ilse Kohler Rollefson, Chairperson of LPPS, Sadri in a workshop organised at Khudi, Jaisalmer for my significant contribution to the camel science. She invited me in many workshops and conferences hosted by LPPS. She also organised Marwar Camel Culture Festival at Sadri many times.

### **Collaborated with OIE (now WOA) and CAMENET**

I received a great recognition as a camel scientist at global level. OIE (World Organisation for Animal Health-WOAH) included me as member of Adhoc Committee for Infectious Diseases of Camelids and invited me at its head quarters in Paris in May 2010. I edited many chapters of OIE publication, "Infectious Diseases of Camelids".

WOAH and Abu Dhabi Agriculture and Food Safety Authority (ADFSA) invited me at 5<sup>th</sup> CAMENET (Middle East Camel Network) Technical Committee Meeting as a member, which was held on November 20-21, 2023 in Abu Dhabi, United Arab Emirates. I served as an external referee for the position of Professor in Veterinary Surgery and Radiology at King Faisal University, Al Hasa, Saudi Arabia.

### **Organised Camel Conferences and delivered lectures in Germany, Iran, Egypt and Saudi Arabia**

I organised an International Camel Conference at College of Veterinary and Animal Sciences, Bikaner, India from 16-17 February, 2007. It was a big event where more than 45 scientists came from abroad and about more than 100 from India (Fig 1). Distinguished Camel Scientist Awards were given to 14 camel scientists or practitioners for the first time in any of the international camel Conference.

I was invited by the organisers of Veterinary Conferences, USA for a lead paper in Florida in 2015 and later I organised a two hour session on Camel Science at their conferences held at Paris (2017) and Berlin (2019) which I did successfully.

I was invited by the School of Ruminant Science at Ludwig Maximilian University, Munich, Germany in the year 2011 where I delivered a lecture on Camel Medicine and Surgery to the faculty and students.

I was invited for a lead paper in the International Congress of Camel in Iran in 2008 and 2016 and as a lead speaker in the First International



Immobilising a fractured mandible by transfixation with fibre cast technique.



Visiting Camel Clinic with Prof R.O.Ramadan at King Faisal University, Al Hasa, Saudi Arabia in February 2013 (Left) and presenting a lead paper on camel surgery here (right).



Camel Saviour Award ceremony at Khudi, Jaisalmer where a camel garlanded me and award was given by the Ilse Kohler Rollefson, Chairperson of LPPS, Sadri (Left) and participants of Marwar Camel Culture Festival at LPPS, Sadri, Pali, Rajasthan (Right).





Member of Adhoc Committee on Camel Diseases at OIE, 4<sup>th</sup> May, 2010 (Left) and Member of Technical Committee of CAMENET.



Organised International Camel Conference at College of Veterinary and Animal Science, Bikaner on 16-17 February, 2007. Felicitation (left) and interaction with eminent scientists Dr R. Schuster and U. Wernery.



Presenting a lead paper on Camel Surgery in Global Veterinary Summit at Florida in 2015 (Left) and organised a session on Camel Science at International Conference held at Berlin, Germany in 2019 (Right).

Conference, April 7<sup>th</sup> -8<sup>th</sup>, 2019, Matrouh, Egypt, organised by Faculty of Veterinary Medicine, Matrouh University, Egypt. I was also invited as lead speaker in the conference of SVMS, at King Faisal University, Saudi Arabia in October 2022.

### Developed Camel Clinic

I was committed to developing the camel clinic in the Veterinary Clinical Complex at College of

Veterinary and Animal Science, Bikaner consistently. The camel clinic was augmented in terms of facilities like imaging, operation theatre, camel trevices, indoors and outdoors for camels. I outsourced the advance imaging like computed tomography and magnetic resonance imaging specially to learn the surgical anatomy on the cadavers of camels as early as 2010-12.



Ludwig Maxmillian University for a lecture on “Camel Surgery and Medicine” 12 June, 2012 (Left) and students listening to my lecture (Right).



Dr Amir Niasari is honouring me in the International Congress of Camel in Iran (Left) and my felicitation as a lead paper speaker on Camel Surgery in the conference at Matrouh University, Mersa Matrouh, Egypt.



A Camel Trevis developed by me (left) and performing CT scan of a Cadaver head of a dromedary camel (right).





Donating the camel journal and books to the Organising Secretary of World Veterinary Editors Conference at Tallin, Estonia (left) and Dean, International Camel Conference, University of Khartoum, Sudan; King Faisal University, Saudi Arabia; Inner Mongolia Research Institute, China.



Collaboration with NACROA: Visiting Texas A&M University (left) and with NACROA team at college of Veterinary and Animal Sciences, Bikaner (Right).

Camel Surgery of different body parts and anatomical systems of camels were standardised and established. I am indebted to the camel farmers and Border Security Forces whose camels with surgical disorders were subjected to the camel surgery over the years and we thus got a perfection in this field. I feel sad about a decline in the population of camels in India, hence we are receiving very less numbers of camels in the Veterinary Clinical Complex at Bikaner. Nevertheless, I feel honoured to have contributed to the development of camel surgery, especially for dromedary camels in India.

### **Donated Camel Books and Journal of Camel Practice and Research to the Veterinary Institutes in India and Abroad**

I donated the camel books and journals authored or edited by me to the libraries of several countries visited by me over a period of time at World Veterinary Editors Conference at Tallin, Estonia; University of Khartoum, Sudan; King Faisal

University, Saudi Arabia; Inner Mongolia Research Institute, China and Veterinary University, Egypt. It was aimed to enrich the respective libraries with the published camelid literature.

### **Collaborated with NACROA**

I had a fruitful collaboration with the North American Camel Ranch Owners Association (NACROA), USA over a period of time during their several visits to India, which eventually facilitated my visit to the Texas A&M University, USA. I owe my sincere thanks to Mr Douglas Baum and Valeri Crenshaw, office bearers of NACROA who not only visited Camel Clinic at Bikaner, India but also facilitated my camel tour of Texas, USA.

### **Edited and Published Journal of Camel Practice and Research, Camel Books and Conference Proceedings**

The Journal of Camel Practice and Research (JCPR) is 32 years old now and proved as a biggest



The Books, Journal and Proceedings of Camel Conference edited by me.

literature resource for the researchers. Many researchers from different countries working on various aspects of camels, often enquired about recent research on camels. I quickly provided them the list of references or abstracts available with me. I edited many books on camelids and most of these were a compilation of papers published in the JCPR on the particular subject. These were Selected Topics on Camelids (2000) and Selected Bibliography of Camelids 1991-2000 (2002), Selected Research on Camelid Physiology and Nutrition (2004), Selected Research on Camelid Parasitology (2007), Selected Research on Gross Anatomy and Histology of Camels (2012), Selected Research on Camelid Immunology (2016). I edited and published few books on the request

of their authors, i.e. The Camel : The Animal of the 21<sup>st</sup> Century (2016), and Bulletin of Camel Disease in The Kingdom of Bahrain (2015). I edited the proceedings of international camel conferences held at Bikaner, India in the year 2007 and at Al-Hasa, Saudi Arabia in 2013.

Currently, JCPR is indexed by CABI and SCOPUS only. Web of Science discontinued its indexing in 2021 due to certain objections with the journal's web site. As a result, many researchers from UAE, China and Saudi Arabia have stopped submitting manuscripts, as their institutions require publication in journals indexed by the Web of Science. Despite making the necessary revisions, I have not been successful in getting JCPR re-included, which is quite disappointing for me and camel scientific



community as the 32 years old Journal now faces the risk of extinction. Nevertheless, my efforts to support and advance camel science will continue.

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