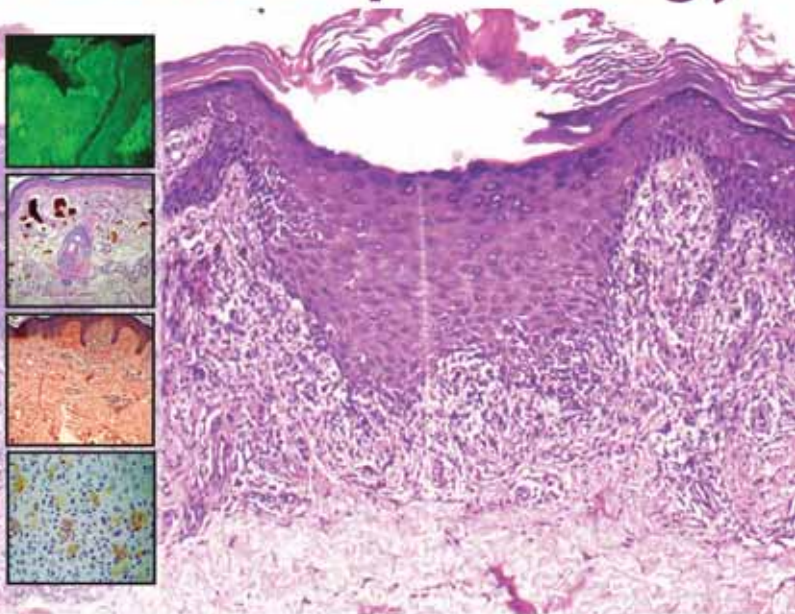


Under the Aegis of IADVL Academy



IADVL Color Atlas of Dermatopathology



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Foreword
Venkataram Mysore



IADVL

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Foreword

Dermatopathology is the backbone of dermatology. Sound knowledge of dermatopathology enhances the prowess of a clinician. Dermatology being a visual specialty, makes it easier for a clinician to learn dermatopathology. It is, therefore, not surprising that so many dermatopathologists are also clinical dermatologists.

The idea of an atlas in dermatopathology was conceived five years back when I was the convener of special interest group of dermatopathology. I am happy it is being published now; this has been completed in one year, which speaks about the commitment of our authors and the hard work put in by the editor Dr Pradeep Mahajan.

The atlas seeks to fill a void; there are hardly any atlases of this type by Indian authors, and hence, I am sure it will be welcomed by all. The atlas is all encompassing with around 1,500 images. The format makes it easy to learn and will be useful to both residents and practitioners in both dermatology and dermatopathology.

In the days when basic sciences are facing existential challenges and being pushed to the background by the onslaught of cosmetic procedures, it is important that associations and teachers nurture and develop this subspecialty to ensure proper development of the subject and also training of residents for the future. This project, therefore, has been particularly satisfying to initiate and oversee.

I congratulate the editor-in-chief, all the editors and the contributors for the excellent work and hope that the book will prove useful to all.

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Leprologists (IADVL)

Message from IADVL Academy

It is with a sense of fulfillment that we pen this message for the *IADVL Color Atlas of Dermatopathology*. This book, edited by Dr Pradeep Mahajan, is a unique project of the IADVL Academy and the brainchild of Dr Venkataram Mysore, the outgoing IADVL President. The desire to create it was ignited by the renewed interest in this specialty, especially among our young members, and the continued realization of its importance in the diagnosis of dermatoses when the clinician is in a dilemma.

The creation of this atlas has necessitated obtaining good and typical photomicrographs of common and rare conditions from the collections of dermatopathologists from India and abroad. That it has been prepared in less than a year under exceptionally tight deadlines is a tribute to the editors. We fervently hope that this atlas encourages young dermatologists to take up this enchanting specialty as their chosen path. Its unique format will ensure that dermatologists and pathologists will be able to scan through the images to correlate them with the histopathology of lesions pertaining to their patient.

It is hoped that this book, along with the other two prepared under the aegis of the IADVL Academy this past year, would find a place in every Indian dermatologist's library. Its acceptance by our members would be the true culmination of the efforts taken towards its completion.

Col Manas Chatterjee

Chairman
IADVL Academy

Ameet Valia

Convenor and Chairperson Designate
IADVL Academy

Preface

Dermatopathology is a rapidly developing specialty in India, and this book, an IADVL Presidential Project conceived by Dr Venkataram Mysore, is a major attempt to strengthen it.

I hope this atlas reflects the science, practice and art of dermatopathology in India. While not an exhaustive display of all dermatology conditions, it showcases the histology of common skin disorders in a systematic manner.

The contents are entirely the result of the relentless efforts of eminent dermatopathologists from India and all over the globe, who sent images of a very high standard.

I am not just thankful, but indebted, to the IADVL office bearers (Dr Venkataram Mysore, IADVL President; Dr Rashmi Sarkar, IADVL Honorary Secretary General; Dr Manas Chatterjee, Chairman, IADVL Academy, and Dr Ameet Valia, Convenor, IADVL Academy), the editorial board, the assistant editor, the contributors, and my fellows and postgraduate students, who helped complete the work.

I thank Dr Bhushan Madke, who introduced us to dermatopathologists from US who contributed images of a few uncommon disorders.

I thank all my seniors, friends and students, who sent amazing clinical material whose photomicrographs are included in the atlas.

I am also thankful to Shri Jitendar P Vij (Group Chairman), Mr Ankit Vij (Group President) and Mr Tarun Duneja (Director–Publishing), especially Mr Sabarish Menon, Mr Rajesh Sharma and the team of M/s Jaypee Brothers Medical Publishers (P) Ltd, New Delhi, India, who have supported me throughout the process.

I conclude with a quote:

*"I was clever yesterday,
And I wanted to improve the world
Today I am wise,
And I want to change myself!"*

Pradeep Mahajan

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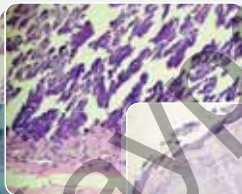
Cutaneous Deposits

13

Chapter Outline

- 13.1: Calcinosis Cutis
- 13.2: Amyloidosis
- 13.3: Gouty Tophi
- 13.4: Lipoid Proteinosis
- 13.5: Colloid Milium
- 13.6: Ochronosis
- 13.7: Tattoo Pigment

Rajiv Joshi, Venkataram Mysore



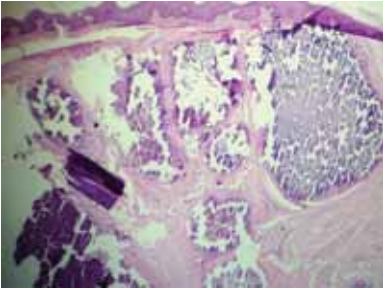


FIGURE 13.1.1

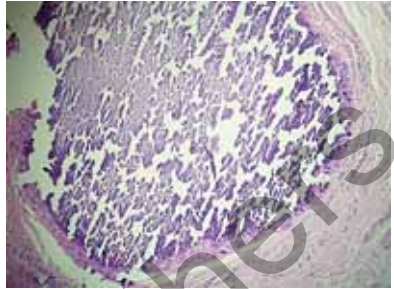


FIGURE 13.1.2

13.1: CALCINOSIS CUTIS

- 13.1.1:** Calcinosis is seen as small and large deposits of basophilic material in the dermis (*Scanner view*)
- 13.1.2:** A chronic inflammatory infiltrate surrounds the deposits (*Low power view*)
- 13.1.3:** Closer view of deposits on H & E stain but deposits stain black with von Kossa stain (*High power view*)
- 13.1.4:** Another case showing calcium deposits (but occasionally transepidermal elimination of calcium may be seen) (*Scanner view*)

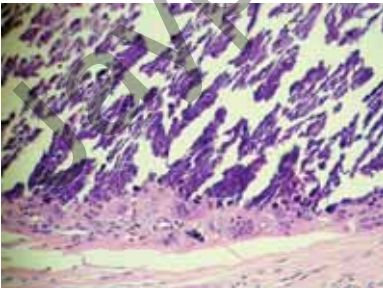


FIGURE 13.1.3

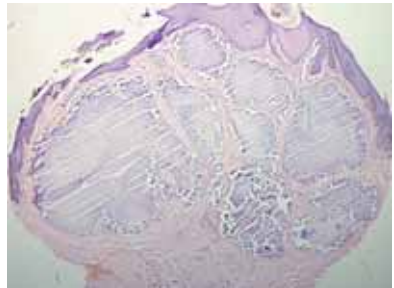


FIGURE 13.1.4



FIGURE 13.2.1.1

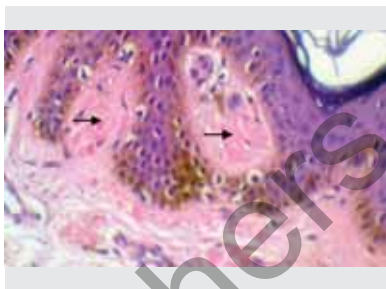


FIGURE 13.2.1.2

13.2: AMYLOIDOSIS

13.2.1: Lichen Amyloidosis

13.2.1.1: Dermal papillae contain globular deposits of amyloid and assume rounded contour, overlying epidermis shows hyperkeratosis and hyperplasia (lichenoid tissue reaction may be seen) (*Low power view*)

13.2.1.2: Closer view of hyaline deposits of amyloid (*High power view*)

13.2.1.3: Amyloid deposits stain positive with Congo red (*Low power view*)

13.2.1.4: Closer view of Congo red (*High power view*)

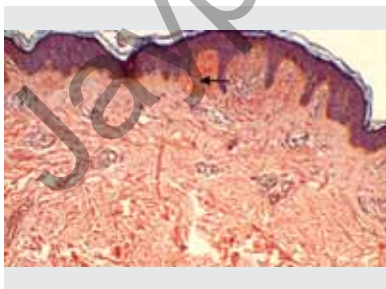


FIGURE 13.2.1.3

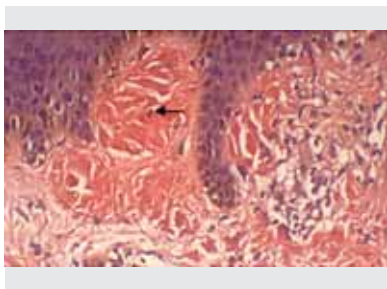


FIGURE 13.2.1.4

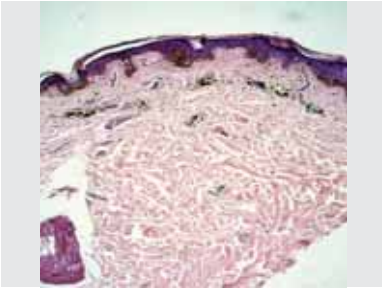


FIGURE 13.2.2.1

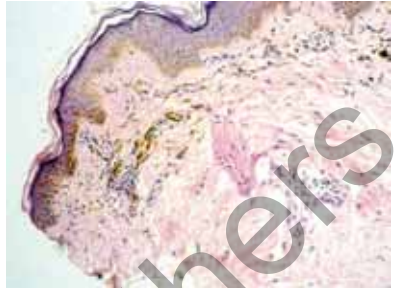


FIGURE 13.2.2.2

13.2.2: Macular Amyloidosis/Frictional Melanosis

- 13.2.2.1:** Moderate epidermal hyperplasia, thinner basket weave stratum corneum (*Scanner view*)
- 13.2.2.2:** Melanophages both in dermal papillae as well as deeper down in perivascular and interstitial locations (*Low power view*)
- 13.2.2.3:** Sparse insignificant inflammatory infiltrate (*Low power view*)
- 13.2.2.4:** Small clumps of amyloid in the dermal papillae (*High power view*)

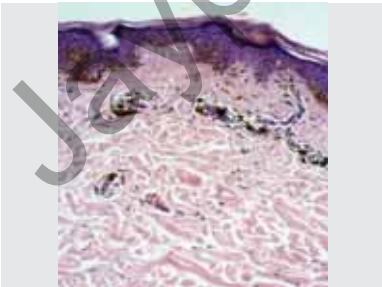


FIGURE 13.2.2.3

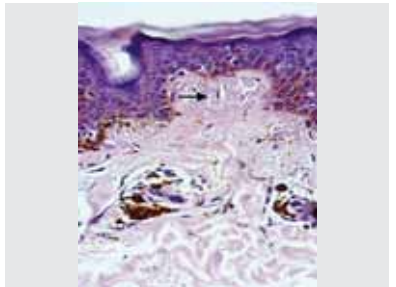


FIGURE 13.2.2.4

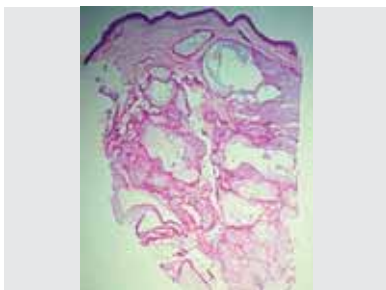


FIGURE 13.3.1

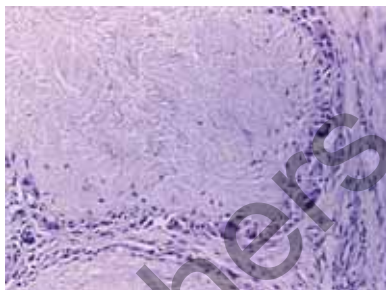


FIGURE 13.3.2

13.3: GOUTY TOPHI

13.3.1: Urates are seen as empty spaces on formalin fixed sections as they are dissolved during processing (*Scanner view*)

13.3.2: When present, seen as wispy, amorphous, bluish basophilic material, surrounded by palisades of histiocytes (*Low power view*)

13.3.3: Needle-shaped crystals are seen in alcohol fixed sections (*High power view*)

13.3.4: The crystals show birefringence under polarized light (*High power view*)

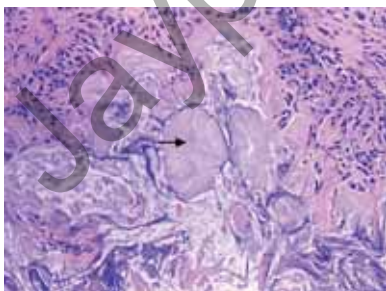


FIGURE 13.3.3



FIGURE 13.3.4

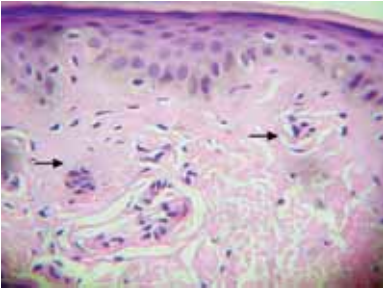


FIGURE 13.4.1

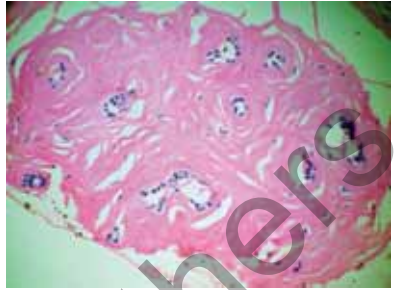


FIGURE 13.4.2

13.4: LIPOID PROTEINOSIS

13.4.1: Deposition of pale, eosinophilic material in the superficial dermis (*Low power view*)

13.4.2: Proliferation of capillaries with perivascular onion skin appearance of hyaline deposits in advanced cases (*High power view*)

13.4.3: Perivascular hyaline deposits are PAS positive (*High power view*)

13.4.4: PAS +ve deposit in superficial dermis and around the blood vessels. Deposit also seen around the hair follicles (*High power view*)

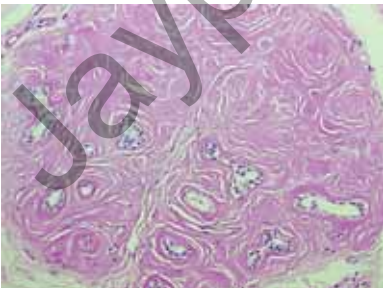


FIGURE 13.4.3

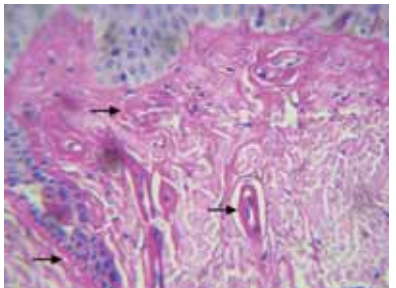


FIGURE 13.4.4

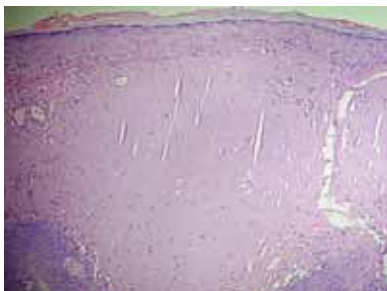


FIGURE 13.5.1

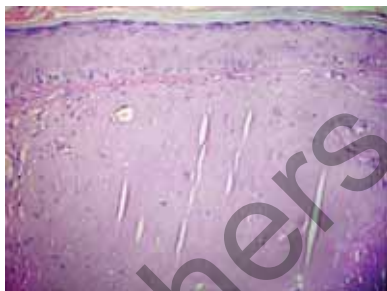


FIGURE 13.5.2

13.5: COLLOID MILIUM

13.5.1: Deposits of eosinophilic material are seen in superficial dermis (*Scanner view*)

13.5.2: The amorphous deposit appears faceted or clefted (*Low power view*)

13.5.3: Closer view of the same (*High power view*)

13.5.4: Another case with deposits along with adjacent solar elastosis seen in adult colloid milium (*Scanner view*)

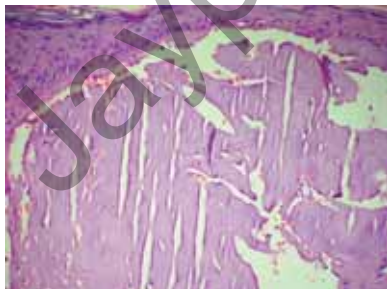


FIGURE 13.5.3

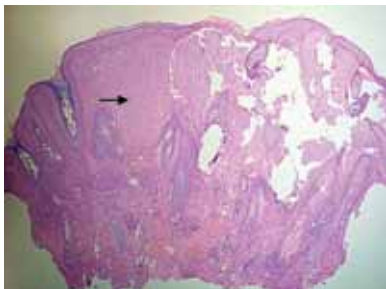


FIGURE 13.5.4

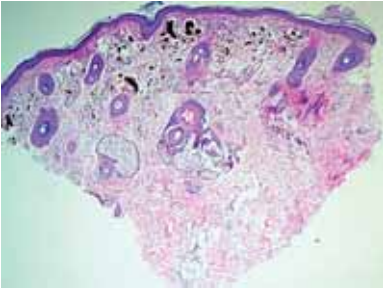


FIGURE 13.6.1

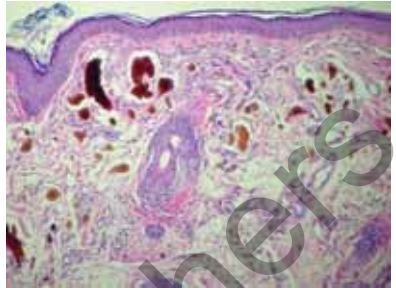


FIGURE 13.6.2

13.6: OCHRONOSIS

13.6.1: Initially collagen in the upper dermis appears swollen and basophilic (*Scanner view*)

13.6.2: Stout, sharply defined fibers of ochronosis in the dermis (*Low power view*)

13.6.3: Ochre-colored fibers of ochronosis, some of the fibers are fragmented (*High power view*)

13.6.4: Typical banana-shaped fiber (*High power view*)

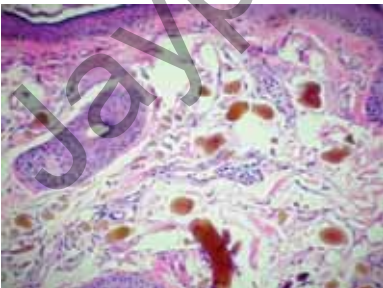


FIGURE 13.6.3

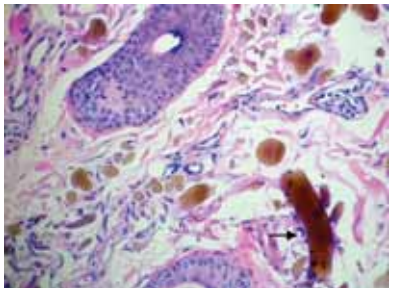


FIGURE 13.6.4

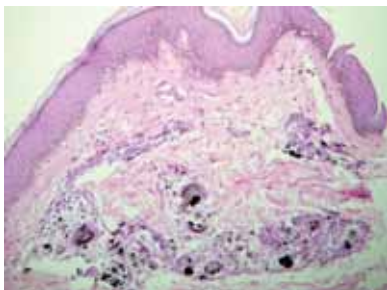


FIGURE 13.7.1

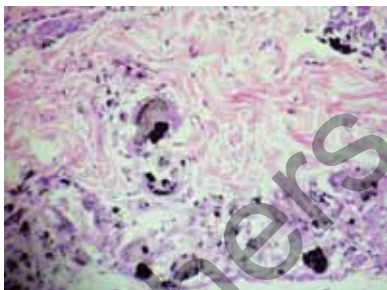


FIGURE 13.7.2

13.7: TATTOO PIGMENT

13.7.1: Histologically all pigments look black in color (*Scanner view*)

13.7.2: Pigment incites inflammatory response (can be granulomatous—foreign body or sarcoidal) (*Low power view*)

13.7.3: Granulomatous reaction with multinucleated giant cells (*Low power view*)

13.7.4: Closer view of granulomatous reaction (*High power view*)

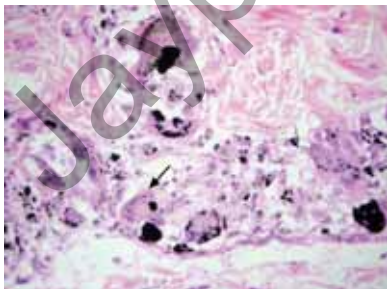


FIGURE 13.7.3

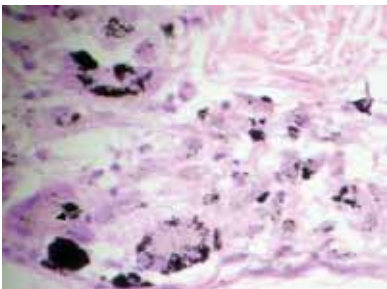


FIGURE 13.7.4

DIFFERENTIAL DIAGNOSIS

1. Osteomas
2. Chondromas
3. Argiria
4. Drug deposits
5. Cutaneous implants

DIAGNOSTIC PEARLS

1. In tumoral calcinosis, subcutaneous deposits of calcium are seen whereas deposits in metastatic and dystrophic calcification tend to be large and dense while those in subepidermal calcified nodule are multiple, small and globular in type.
2. Osteoma cutis shows Haversian systems and cement lines.
3. Primary cutaneous amyloidosis has pigmented cells within the dermal deposits.
4. Deposits in lipoid proteinosis extend to adjacent dermis from perivascular location as against porphyria. Also there is no involvement of the sweat glands in porphyria.
5. Colloid milium does not contain laminin or type IV collagen in contrast to lipoid proteinosis and primary cutaneous amyloidosis.
6. Exogenous ochronosis demonstrates variable number of macrophages, which are infrequent in alkaptonuria.