Practical Perspectives: Optimizing Diagnosis and Treatment for Patients with Desmoid Tumors

A CME/MOC-Accredited Live Webinar

Tuesday, September 24, 2024 5:00 PM - 6:00 PM ET

Faculty

Thierry Alcindor, MD, MSc Mrinal Gounder, MD



Faculty



Thierry Alcindor, MD, MSc Senior Physician Sarcoma Center, Dana-Farber Cancer Institute Brigham and Women's Hospital Harvard Medical School Boston, Massachusetts



MODERATOR
Neil Love, MD
Research To Practice
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Commercial Support

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Dr Love — Disclosures

Dr Love is president and CEO of Research To Practice. Research To Practice receives funds in the form of educational grants to develop CME activities from the following companies: AbbVie Inc, Adaptive Biotechnologies Corporation, ADC Therapeutics, Agios Pharmaceuticals Inc, Alexion Pharmaceuticals, Amgen Inc, Array BioPharma Inc, a subsidiary of Pfizer Inc, Astellas, AstraZeneca Pharmaceuticals LP, Aveo Pharmaceuticals, Bayer HealthCare Pharmaceuticals, BeiGene Ltd, BeyondSpring Pharmaceuticals Inc, Black Diamond Therapeutics Inc, Blueprint Medicines, Boehringer Ingelheim Pharmaceuticals Inc, Bristol Myers Squibb, Celgene Corporation, Clovis Oncology, Coherus BioSciences, CTI BioPharma, a Sobi Company, Daiichi Sankyo Inc, Eisai Inc, Elevation Oncology Inc, EMD Serono Inc, Epizyme Inc, Exact Sciences Corporation, Exelixis Inc, Five Prime Therapeutics Inc, Foundation Medicine, G1 Therapeutics Inc, Genentech, a member of the Roche Group, Genmab US Inc, Geron Corporation, Gilead Sciences Inc, Grail Inc, GSK, Halozyme Inc, Helsinn Healthcare SA, Hologic Inc, ImmunoGen Inc, Incyte Corporation, Ipsen Biopharmaceuticals Inc, Janssen Biotech Inc, administered by Janssen Scientific Affairs LLC, Jazz Pharmaceuticals Inc, Karyopharm Therapeutics, Kite, A Gilead Company, Kronos Bio Inc, Legend Biotech, Lilly, Loxo Oncology Inc, a wholly owned subsidiary of Eli Lilly & Company, MEI Pharma Inc, Merck, Mersana Therapeutics Inc, Mirati Therapeutics Inc, Mural Oncology Inc, Natera Inc, Novartis, Novartis Pharmaceuticals Corporation on behalf of Advanced Accelerator Applications, Novocure Inc, Oncopeptides, Pfizer Inc, Pharmacyclics LLC, an AbbVie Company, Puma Biotechnology Inc, Regeneron Pharmaceuticals Inc, R-Pharm US, Sanofi, Seagen Inc, Servier Pharmaceuticals LLC, SpringWorks Therapeutics Inc, Stemline Therapeutics Inc, Sumitomo Dainippon Pharma Oncology Inc, Syndax Pharmaceuticals, Taiho Oncology Inc, Takeda Pharmaceuticals USA Inc, TerSeraTherapeutics LLC, Tesaro, A GSK Company, TG Therapeutics Inc, Turning Point Therapeutics Inc, Verastem Inc, and Zymeworks Inc.

Research To Practice CME Planning Committee Members, Staff and Reviewers

Planners, scientific staff and independent reviewers for Research To Practice have no relevant conflicts of interest to disclose.



Dr Alcindor — **Disclosures**

No relevant conflicts of interest to disclose.



Dr Gounder — Disclosures

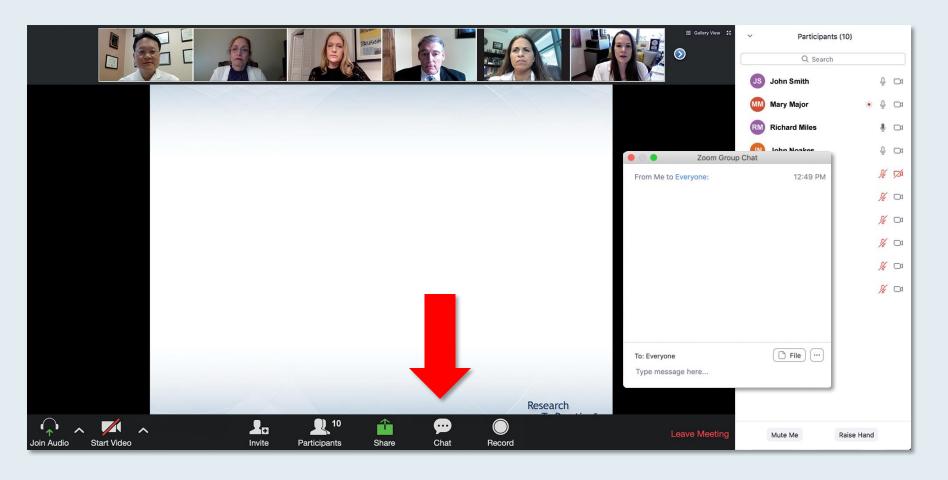
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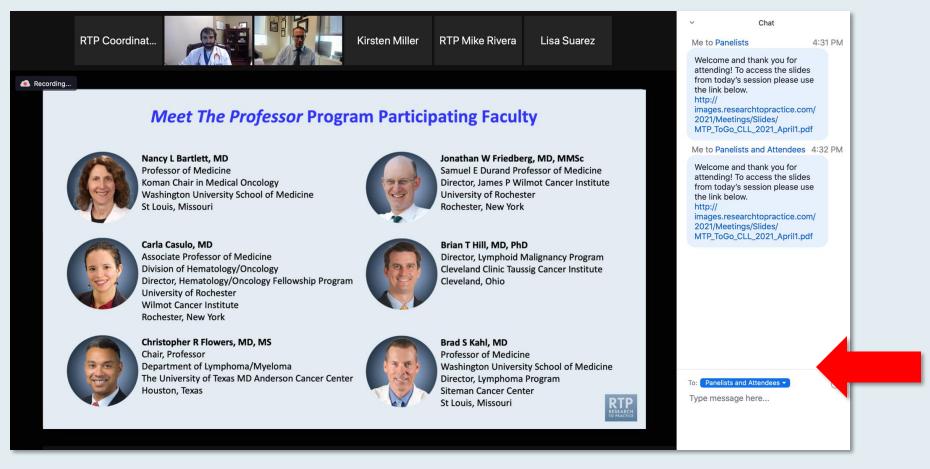


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ONCOLOGY TODAY

WITH DR NEIL LOVE

Management of Desmoid Tumors



DR MRINAL GOUNDER
MEMORIAL SLOAN KETTERING CANCER CENTER









Practical Perspectives: Optimizing the Role of BTK Inhibitors in the Management of Mantle Cell Lymphoma

A CME/MOC-Accredited Live Webinar

Wednesday, September 25, 2024 5:00 PM – 6:00 PM ET

Faculty
Tycel Phillips, MD
Michael Wang, MD



The Implications of Recent Datasets for the Current and Future Management of Small Cell Lung Cancer — A 2024 World Conference on Lung Cancer Review

A CME/MOC-Accredited Live Webinar

Thursday, September 26, 2024 5:00 PM – 5:45 PM ET

Faculty
Jacob Sands, MD



Improving Outcomes with First-Line Endocrine-Based Therapy for Patients with HR-Positive, HER2-Negative Metastatic Breast Cancer

A CME/MOC-Accredited Live Webinar

Tuesday, October 8, 2024 5:00 PM - 6:00 PM ET

Faculty

Francois-Clement Bidard, MD, PhD Kevin Kalinsky, MD, MS



The Implications of Recent Datasets for the Current and Future Management of Gastrointestinal Cancers — An ESMO Congress 2024 Review

A CME/MOC-Accredited Live Webinar

Tuesday, October 15, 2024 5:00 PM – 6:00 PM ET

Faculty

Tanios Bekaii-Saab, MD Philip A Philip, MD, PhD, FRCP



Data + Perspectives: Clinical Investigators Explore the Application of Recent Datasets in Current Oncology Care

A Multitumor Hybrid Symposium in Partnership with Florida Cancer Specialists & Research Institute

Saturday, October 26, 2024

HR-Positive Breast Cancer Faculty

Joyce O'Shaughnessy, MD Seth Wander, MD, PhD Prostate Cancer Faculty

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Lung Cancer Faculty

Sarah B Goldberg, MD, MPH Joshua K Sabari, MD Non-Hodgkin Lymphoma and Chronic
Lymphocytic Leukemia
Faculty
Brad S Kahl, MD
Sonali M Smith, MD



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Faculty
Shaji K Kumar, MD
Noopur Raje, MD



What Clinicians Want to Know: Addressing Current Questions and Controversies in the Management of Hematologic Cancers

A CME Friday Satellite Symposium and Webcast Series Preceding the 66th ASH Annual Meeting and Exposition

Friday, December 6, 2024

Chronic Myeloid Leukemia 7:30 AM – 9:00 AM PT Myelofibrosis 11:30 AM – 1:30 PM PT

Chronic Lymphocytic Leukemia 7:30 AM – 9:30 AM PT Acute Myeloid Leukemia 3:15 PM - 5:15 PM PT

CAR-T and Bispecific-Antibody Therapy for Lymphoma 11:30 AM – 1:30 PM PT Multiple Myeloma 3:15 PM – 5:15 PM PT



Rounds with the Investigators: Compelling Teaching Cases Focused on the Management of Breast Cancer

A 3-Part CME Hybrid Satellite Symposium Series in Partnership with the 2024 San Antonio Breast Cancer Symposium®

HER2-Low and HER2-Ultralow Breast Cancer

Tuesday, December 10, 2024 7:15 PM – 8:45 PM CT New Developments in Endocrine Treatment for Breast Cancer

Wednesday, December 11, 2024 7:15 PM – 9:15 PM CT

Management of Metastatic Breast Cancer

Thursday, December 12, 2024 7:15 PM – 9:15 PM CT



Save The Date

Fourth Annual National General Medical Oncology Summit

A Multitumor CME/MOC-, ACPE- and NCPD-Accredited Educational Conference Developed in Partnership with Florida Cancer Specialists & Research Institute

Friday to Sunday, February 28 to March 2, 2025

Fontainebleau Hotel, Miami Beach, Florida

Moderated by Neil Love, MD

Thank you for joining us!

Information on how to obtain CME, ABIM MOC and ABS credit will be provided at the conclusion of the activity in the Zoom chat room. Attendees will also receive an email in 1 to 3 business days with these instructions.



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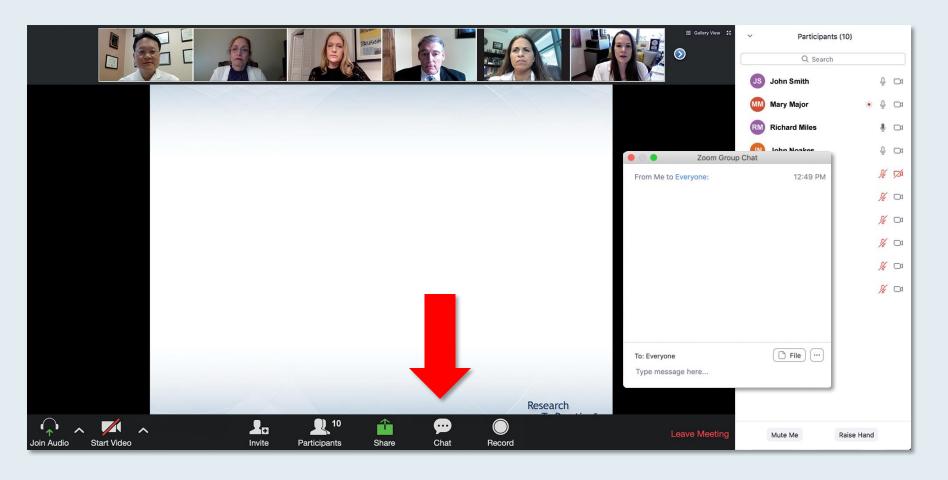
MODERATOR
Neil Love, MD
Research To Practice
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Associate Attending
Sarcoma Medical Oncology, Early Drug Development (Phase I)
Physician Ambassador – India and Asia, Bobst International Center
Memorial Sloan Kettering Cancer Center
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Weill Cornell School of Medicine, Cornell University
New York, New York



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Dr Gounder — Disclosures

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Agenda **Management of Desmoid Tumors**

Introduction: Biology and Clinical Presentation

Module 1: Tyrosine Kinase Inhibitors

Module 2: Gamma Secretase Inhibitors

Module 3: Faculty Case Presentations



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JAMA Oncology | Review

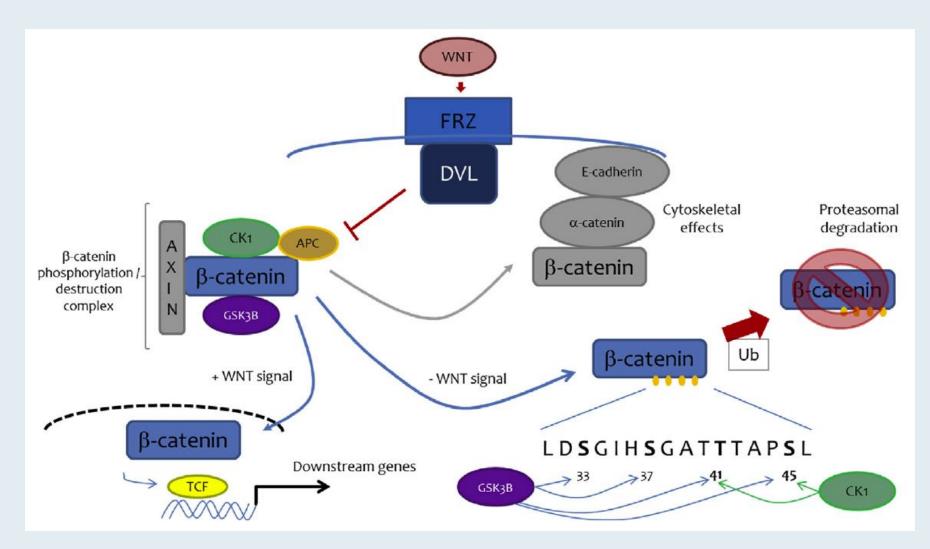
Current Management of Desmoid Tumors A Review

Bernd Kasper, MD, PhD; Elizabeth H. Baldini, MD; Sylvie Bonvalot, MD, PhD; Dario Callegaro, MD; Kenneth Cardona, MD; Chiara Colombo, MD; Nadège Corradini, MD; Aimee M. Crago, MD, PhD; Angelo P. Dei Tos, MD; Palma Dileo, MD; Eldad Elnekave, MD; Joseph P. Erinjeri, MD, PhD; Fariba Navid, MD; Jeffrey M. Farma, MD; Andrea Ferrari, MD; Marco Fiore, MD; Rebecca A. Gladdy, MD, PhD; Mrinal Gounder, MD; Rick L. Haas, MD, PhD; Olga Husson, MD, PhD; Jean-Emmanuel Kurtz, MD, PhD; Alex J. Lazar, MD, PhD; Daniel Orbach, MD; Nicolas Penel, MD, PhD; Ravi Ratan, MD; Chandrajit P. Raut, MD; Christina L. Roland, MD, MS; Ann-Rose W. Schut, MD, PhD; Monika Sparber-Sauer, MD; Dirk C. Strauss, MD; Winette T. A. Van der Graaf, MD, PhD; Marco Vitellaro, MD; Aaron R. Weiss, DO; Alessandro Gronchi, MD; for the Desmoid Tumor Working Group

JAMA Oncol 2024 June 20; [Online ahead of print]



Desmoid Tumors (DT): Pathology and Molecular Genetics



- CTNNB1 mutations and APC mutations are mutually exclusive in DT
 - Detection of a somatic CTNNB1 mutation can help to exclude a syndromic condition
 - in DT, especially in an intra-abdominal tumor, should raise suspicion for familial adenomatous polyposis, with more extensive diagnostic clinical work-up
- Either APC loss or CTNNB1 mutation can lead to DT development



Treatment Landscape for Desmoid Tumors: Treatment Sequencing

	Surgery	Chemo-therapeutics	Radiation	**** Cryoablation	High-Intensity Focused Ultrasound	Not Reported
1 st Line	59%	24%	10%	<1%	4%	2%
2 nd Line	27%	43%	14%	4%	<1%	5%
3 rd Line	10%	18%	12%	5%	2%	0%



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Module 1: Tyrosine Kinase Inhibitors

Module 2: Gamma Secretase Inhibitors

Module 3: Faculty Case Presentations



The NEW ENGLAND JOURNAL of MEDICINE 2018;379(25):2417-28

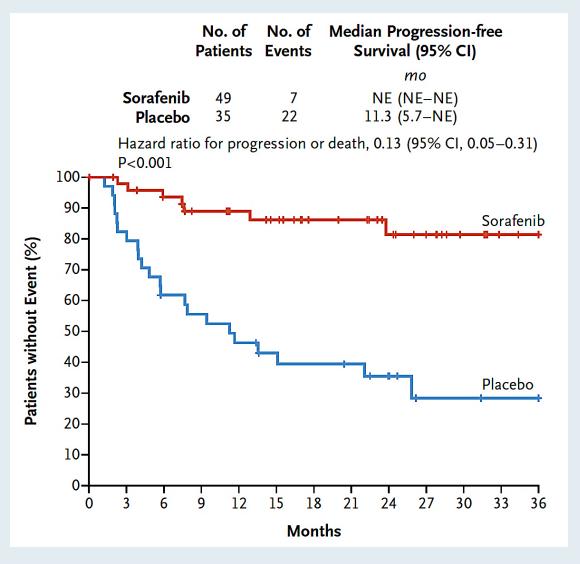
ORIGINAL ARTICLE

Sorafenib for Advanced and Refractory Desmoid Tumors

Mrinal M. Gounder, M.D., Michelle R. Mahoney, M.S., Brian A. Van Tine, M.D., Ph.D., Vinod Ravi, M.D., Steven Attia, D.O., Hari A. Deshpande, M.D., Abha A. Gupta, M.D., Mohammed M. Milhem, M.D., Robert M. Conry, M.D., Sujana Movva, M.D., Michael J. Pishvaian, M.D., Ph.D., Richard F. Riedel, M.D., Tarek Sabagh, M.D., William D. Tap, M.D., Natally Horvat, M.D., Ethan Basch, M.D., Lawrence H. Schwartz, M.D., Robert G. Maki, M.D., Ph.D., Narasimhan P. Agaram, M.B., B.S., Robert A. Lefkowitz, M.D., Yousef Mazaheri, Ph.D., Rikiya Yamashita, M.D., Ph.D., John J. Wright, M.D., Ph.D., Amylou C. Dueck, Ph.D., and Gary K. Schwartz, M.D.

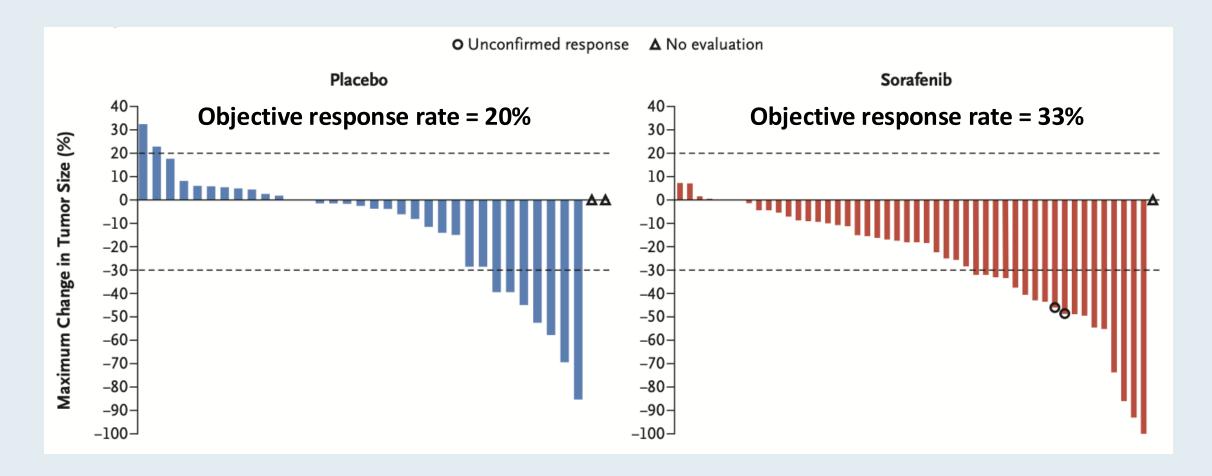


Sorafenib for Advanced and Refractory Desmoid Tumors: Estimates of Duration of Progression-Free Survival at the Time of Last Assessment





Sorafenib for Advanced and Refractory Desmoid Tumors: Percent Change from Baseline in Tumor Size





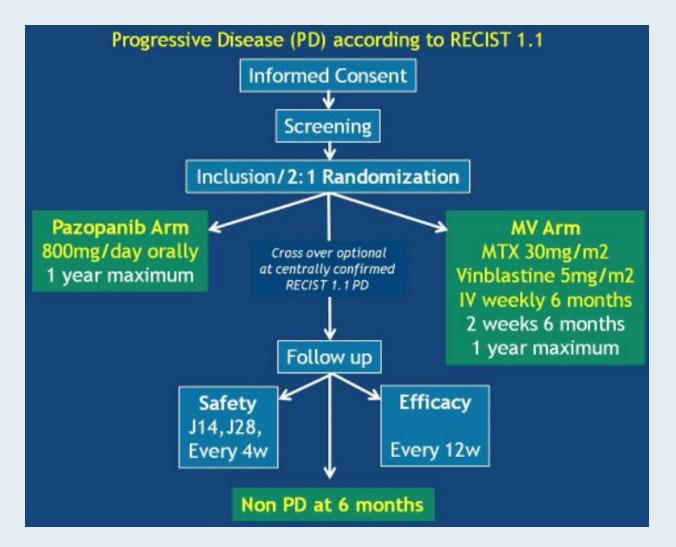
Pazopanib or methotrexate-vinblastine combination chemotherapy in adult patients with progressive desmoid tumours (DESMOPAZ): a non-comparative, randomised, open-label, multicentre, phase 2 study

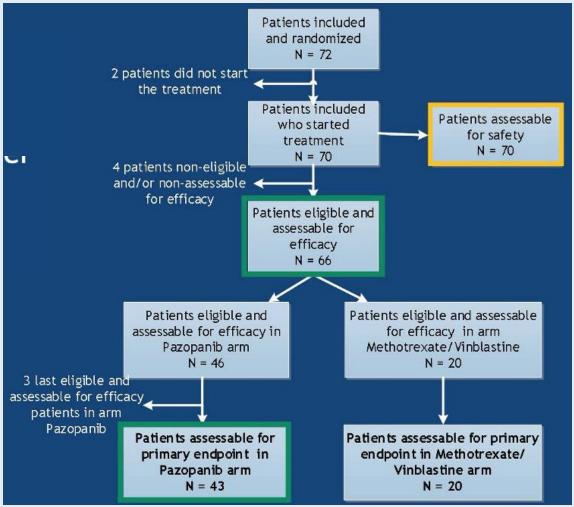
Maud Toulmonde, Marina Pulido, Isabelle Ray-Coquard, Thierry Andre, Nicolas Isambert, Christine Chevreau, Nicolas Penel, Emmanuelle Bompas, Esma Saada, François Bertucci, Celeste Lebbe, Axel Le Cesne, Patrick Soulie, Sophie Piperno-Neumann, Stephen Sweet, Fabiola Cecchi, Todd Hembrough, Carine Bellera, Michèle Kind, Amandine Crombe, Carlo Lucchesi, François Le Loarer, Jean-Yves Blay, Antoine Italiano

Lancet Oncol 2019 September; 20(9):1263-72



DESMOPAZ Phase II Study Design and Participants

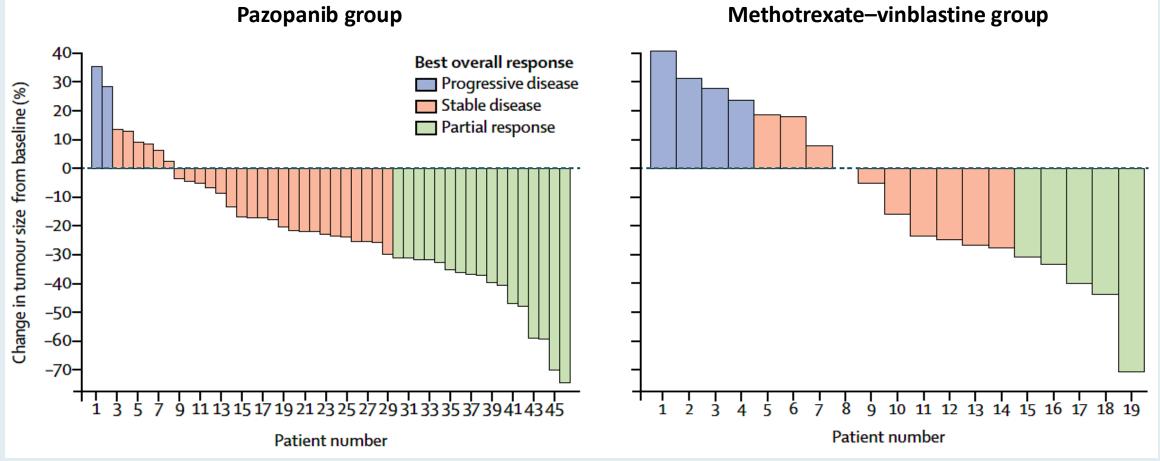






DESMOPAZ: Proportion of Patients without Disease Progression and Best Overall Response

Primary endpoint	Pazopanib group	Methotrexate-vinblastine group
Proportion of patients without disease progression at 6 months	83.7%	45.0%





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FDA Approves Nirogacestat for Desmoid Tumors

Press Release: November 27, 2023

"The Food and Drug Administration approved nirogacestat for adult patients with progressing desmoid tumors who require systemic treatment. This is the first approved treatment for desmoid tumors.

Efficacy was evaluated in DeFi (NCT03785964), an international, multicenter, randomized (1:1), double-blind, placebo-controlled trial in 142 patients with progressing desmoid tumors not amenable to surgery. Patients were eligible if the desmoid tumor had progressed within 12 months of screening. Patients were randomized to receive 150 mg nirogacestat or placebo orally twice daily until disease progression or unacceptable toxicity.

The major efficacy outcome measure was progression-free survival (PFS) based on RECIST v1.1 as assessed by blinded independent central review or on clinical progression by the investigator (and adjudicated by independent review). Median PFS was not reached in the nirogacestat arm and 15.1 months in the placebo arm (hazard ratio [HR] 0.29; p-value = <0.001). An exploratory analysis of PFS based on only radiographic progression demonstrated a hazard ratio of 0.31.

The recommended nirogacestat dose is 150 mg administered orally twice daily with or without food until disease progression or unacceptable toxicity. Each 150 mg dose consists of three 50 mg tablets."



The NEW ENGLAND JOURNAL of MEDICINE

2023 March 9;388(10):898-912

ORIGINAL ARTICLE

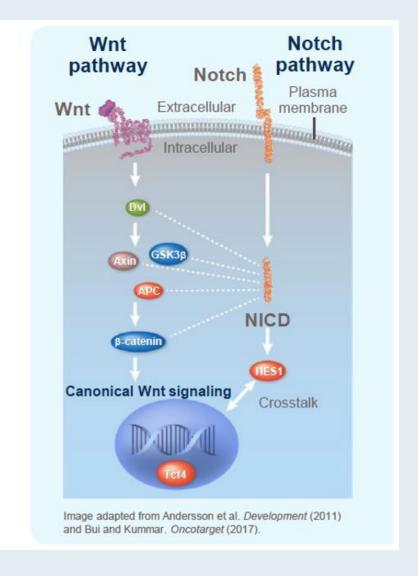
Nirogacestat, a γ -Secretase Inhibitor for Desmoid Tumors

M. Gounder, R. Ratan, T. Alcindor, P. Schöffski, W.T. van der Graaf, B.A. Wilky, R.F. Riedel, A. Lim, L.M. Smith, S. Moody, S. Attia, S. Chawla, G. D'Amato, N. Federman, P. Merriam, B.A. Van Tine, B. Vincenzi, C. Benson, N.Q. Bui, R. Chugh, G. Tinoco, J. Charlson, P. Dileo, L. Hartner, L. Lapeire, F. Mazzeo, E. Palmerini, P. Reichardt, S. Stacchiotti, H.H. Bailey, M.A. Burgess, G.M. Cote, L.E. Davis, H. Deshpande, H. Gelderblom, G. Grignani, E. Loggers, T. Philip, J.G. Pressey, S. Kummar, and B. Kasper



Gamma Secretase Inhibition for Desmoid Tumors

- Desmoid tumors (DT) are rare, locally aggressive, and invasive soft-tissue tumors that are challenging to manage due to variable presentation, unpredictable disease course, and a lack of approved therapies
- Treatment should be individualized to optimize tumor control and improve symptom burden, including pain, physical function, and overall quality of life
 - A global consensus initiative has been launched by The Desmoid Tumor Working Group aiming to harmonize management strategies
- There is mechanistic rationale for the use of gamma secretase inhibitors (GSI) in DT as these tumors highly express Notch, which can be blocked by GSIs
- Nirogacestat is an investigational, oral, selective, small-molecule GSI that has shown evidence of antitumor activity in DT in Phase 1 and 2 trials with a manageable adverse event profile





DeFi Phase III Trial Design and Study Endpoints

Trial Summary

- Global, randomized, double-blind, placebo-controlled, Phase 3 trial comparing the efficacy, safety, and tolerability of nirogacestat vs placebo in adult patients with progressing DT
- 142 patients randomized across 37 sites in North America and Europe

Adult Eligible Patients

- Histologically confirmed DT with progressive disease per RECIST v1.1^a
 - Treatment-naïve with DT not amenable to surgery, or
 - Refractory or recurrent disease (after ≥1 line of therapy)

Key Endpoints

- Primary: Progression-free survivalb
- Secondary: Objective response rate and patient-reported outcomes, including symptom burden, physical/role function, and overall quality of life^c

Randomized
1:1
Stratified by tumor location (intra- vs extraabdominal)

28-day cycles

Nirogacestat
150 mg BID

Radiographic progressive diseased

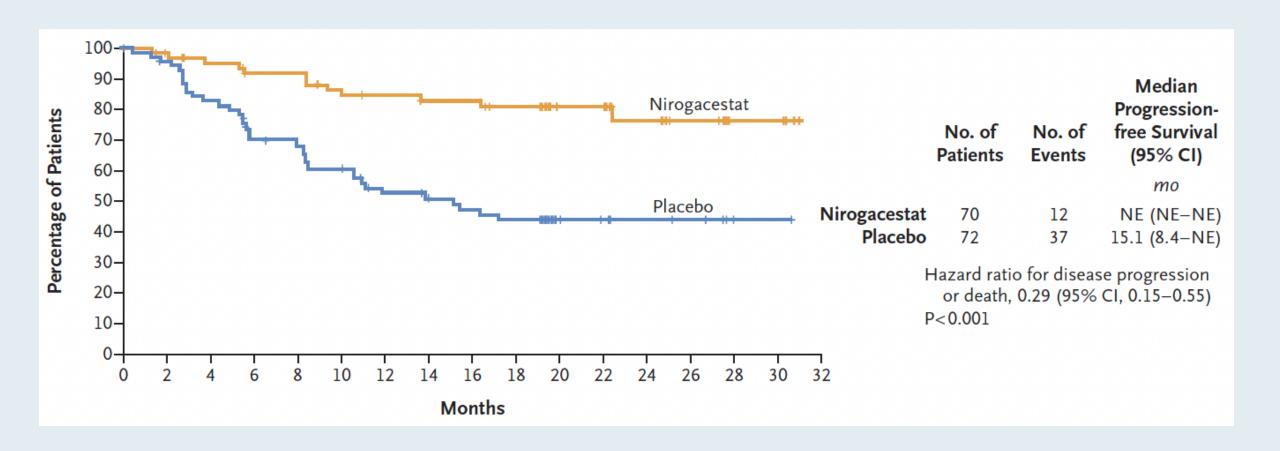
Placebo BID

Radiographic progressive diseased
150 mg BID

Primary Analysis Data Cutoff: April 7, 2022

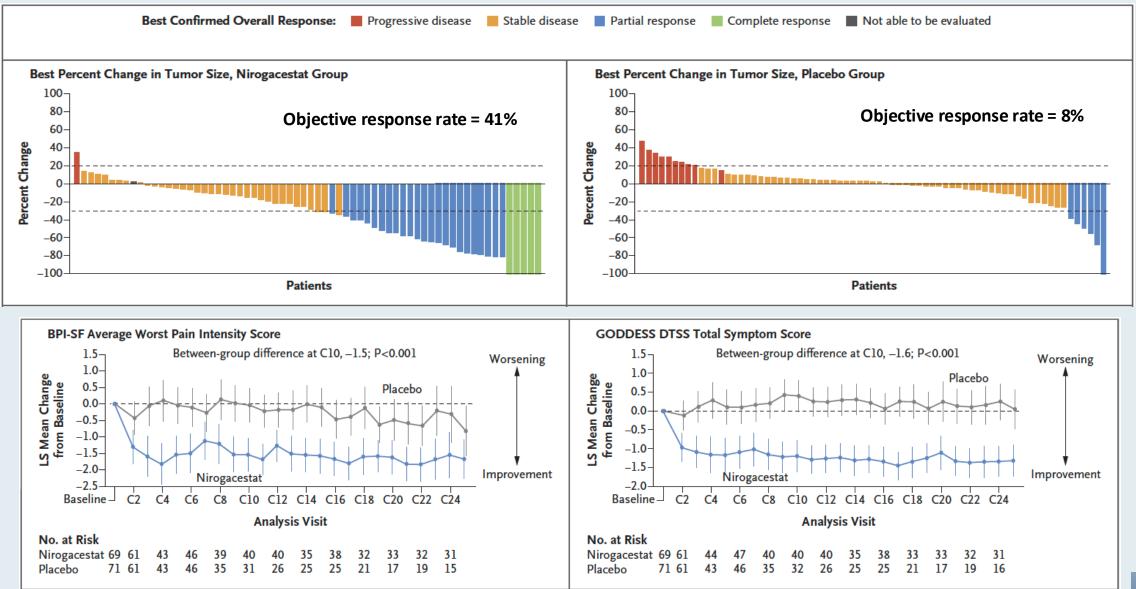


DeFi: Progression-Free Survival (Primary Endpoint)





DeFi: Response and Improvement in Quality of Life with Nirogacestat





DeFi: Adverse Events in the Safety Population

Safety population, n (%)	Nirogacestat (n=69)		Placebo (n=72)		
Duration of study drug exposure, median (range), mo	20.6 (0.3, 33.6)		11.4 (0.2, 32.5)		
Dose intensity, median (range), mg/d	288.3 (169, 300)		300.0 (239, 300)		
	Any Grade	Grade ≥3	Any Grade	Grade ≥3	
Any TEAE	69 (100)	39 (57)	69 (96)	12 (17)	
TEAEs of any grade reported in ≥25% of patients in either arm					
Diarrhea	58 (84)	11 (16)	25 (35)	1 (1)	
Nausea	37 (54)	1 (1)	28 (39)	0	
Fatigue	35 (51)	2 (3)	26 (36)	0	
Hypophosphatemia	29 (42)	2 (3)	5 (7)	0	
Rash, maculopapular	22 (32)	4 (6)	4 (6)	0	
Headache	20 (29)	0	11 (15)	0	
Stomatitis	20 (29)	3 (4)	3 (4)	0	
TEAEs leading to death	0	0		1 (1) ^a	
Dose reductions due to TEAEs	29 (42)		0		
Discontinuations due to TEAEs	14 (20) ^b		1 (1) ^b		

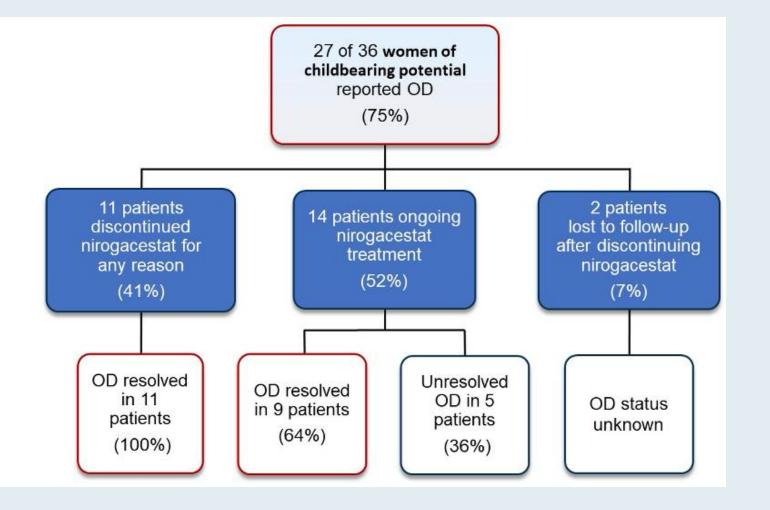
95% of TEAEs were Grade 1 or 2; the first onset of TEAEs in most patients occurred during Cycle 1

TEAE = treatment-emergent adverse event



DeFi: Ovarian Toxicity Observed with Nirogacestat

- Ovarian toxicity is a composite AE associated with changes in female reproductive hormone levels and clinical manifestations
- Discuss fertility preservation in women of childbearing potential
- Among women of childbearing potential, OT was observed in 75% receiving nirogacestat and 0% receiving placebo







Monitoring Ovarian Function in Oncology Trials: Results and Insights From the DeFi Phase 3 Trial of Nirogacestat in Desmoid Tumors

Elizabeth T Loggers, MD, PhD¹; Rashmi Chugh, MD²; Lee Hartner, MD³; Richard F Riedel, MD⁴; Sunny Cho, PharmD⁵; David Hyslop, MD⁵; Allison Lim, PharmD⁵; Ana B Oton, MD⁵; Noah Federman, MD⁶



ASCO Recommendations

- Include measures of OT in clinical trials enrolling premenopausal, post-pubertal patients
- Collect measures of ovarian function at baseline and at 12–24 months after treatment cessation (at minimum)
- Assess ovarian function through both clinical measures (eg, menses) and biomarkers (eg, hormones^a)

^aCombination of anti-Müllerian hormone, follicle-stimulating hormone, and estradiol are recommended. ¹Cui W, et al. *Lancet Oncol*. 2023;24(10):e415-e423.

OT = ovarian toxicity



DeFi: Limitations in Monitoring for Ovarian Toxicity (OT)

Investigator-identified reporting of OT

Broad definition

Clinical trial coding terms (MedDRA, CTCAE)

 May not adequately capture OT as observed in DeFi

Lack of menstrual diaries

 Menstruation not tracked at baseline or during trial

DeFi trial Limitations: OT

Hormone assessments

- Incomplete for some patients
- Scheduled to coincide with trial visits not menstrual cycle

All FORP were considered in the analysis for OT, independent of menstrual status and hormone levels at baseline

- Patients with baseline amenorrhea or menstrual irregularities were considered for OT analysis
- Concomitant and/or previous treatments (eg, hormonal contraception, systemic anticancer therapies)
 were allowed

FORP = females of reproductive potential



Lessons Learned from DeFi for Future Oncology Clinical Trials

- Collect medical history, including possible confounding factors
 - Menstruation and fertility history
 - Prior and concomitant treatment (eg, gonadotoxic agents, GnRH agonists)
- Use menstrual diaries at baseline and during clinical trial
- Optimize the collection and use of ovarian function biomarkers
 - FSH and estradiol: must be timed with menstrual cycle (days 2-5¹) to optimize usefulness
 - AMH: reference values change with increasing age,¹ requiring careful interpretation
- Ensure adequate post-treatment follow-up to assess OT resolution



ESMO SARCOMA AND RARE CANCERS

Annual Congress

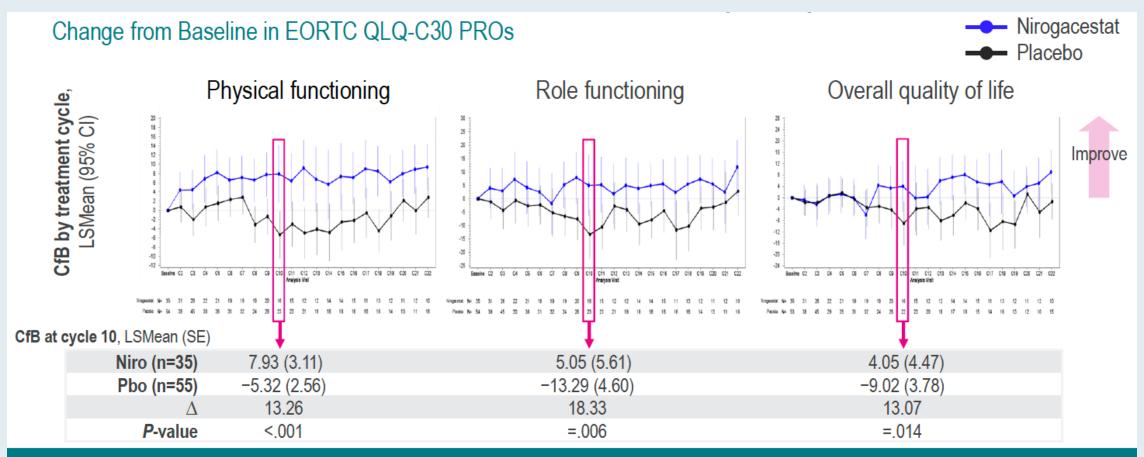
Abstract 57MO

IMPACT OF NIROGACESTAT ON PATIENT-REPORTED OUTCOMES IN ADULTS WITH DESMOID TUMOR WITH A BEST OVERALL RESPONSE OF STABLE DISEASE: POST HOC ANALYSIS FROM THE DeFi STUDY

<u>Silvia Stacchiotti,</u>¹ Sant Chawla,² Rashmi Chugh,³ Gina D'Amato,⁴ Mrinal Gounder,^{5,6} Ravin Ratan,⁷ Winette van der Graaf,⁸ Vince Amoruccio,⁹ Timothy Bell,⁹ Sunny Cho,⁹ Patrick Schöffski^{10,11}



DeFi: Patients with Stable Disease per RECIST v1.1



Greater improvement from baseline with niro vs pbo

BOR, best overall response; CfB, change from baseline; CI, confidence interval; DT, desmoid tumor; EORTC QLQ-C30, European Organisation for Research and Treatment of Cancer Quality of Life Questionnaire-Core 30; LS, least squares; niro, nirogacestat; pbo, placebo; PRO, patient-reported outcome; pts, patients; SE, standard error.



Best Overall Response (BOR) in DeFi

BOR confirmed, n (%)	Niro (N=70ª)	Pbo (N=72)
Complete response (CR)	5 (7)	0
Partial response (PR)	24 (34)	6 (8)
Stable disease (SD)	35 (50)	55 (76)
Progressive disease (PD)	1 (1)	10 (14)
Not evaluable	4 (6)	1 (1)

Total exposure to niro in patients with SD was approximately half of those who achieved PR or CR.b

	Niro (n=35)	Pbo (n=55)
Baseline Characteristics		
Female, n (%)	21 (60)	36 (65)
Age, median (range), y	34 (18–64)	34 (18–76)
DT treatment status, n (%)		
Refractory	22 (63)	44 (80)
Treatment naïve	7 (20)	8 (15)
Recurrent	6 (17)	3 (5)



Patient-Reported Outcomes: Patients with Stable Disease as BOR

BPI-SF

Brief Pain Inventory-Short Form

Average pain intensity: worst pain^{a,b}

GODDESS®

Gounder/Desmoid Tumor Research Foundation Desmoid Symptom/Impact Scale

- Total symptom score (DT Symptom Scale)^b
- Physical functioning domain (DT Impact Scale)^c

EORTC QLQ-C30

European Organisation for Research and Treatment of Cancer Quality of Life Questionnaire-Core 30^d

- Physical functioning
- Role functioning
- Overall QoL

Collected at screening/baseline & monthly; data shown for baseline & monthly from cycle 2–23 (change from baseline at cycle 10 = key secondary endpoint)



DeFi Post Hoc Analysis: Author Conclusions

- Nirogacestat-treated patients with stable disease as best overall response by RECIST v1.1 had significant and clinically meaningful improvement in PROs compared with placebo-treated patients, despite not achieving CR/PR
 - PROs included: pain, DT-specific symptom burden, physical functioning, role functioning, and overall quality of life
- Improvements were observed early and were maintained throughout the double-blind study



Updated Results of the RINGSIDE Phase 2 Trial and Open-Label Extension of AL102 for Treatment of Desmoid Tumors

Kasper B et al.

ESMO 2024; Abstract 1766P.



Desmoid Tumors: Characteristics and Treatment Options

Aggressive, invasive connective tissue tumors that infiltrate surrounding tissues and affect function of organs and nerves

Desmoid tumors can occur in any anatomic location

Associated with significant disease impacts

- Desmoid tumors can cause severe, chronic pain, deformity, swelling, loss of function, bowel obstruction or perforation, and/or threat to vital organs
- Symptoms are chronic and quality of life is reduced

Treatment options

- Local therapies, such as surgery or radiation, are associated with frequent recurrence and toxicity
- Chemotherapy (e.g., doxorubicin) and tyrosine kinase inhibitors (e.g., sorafenib) show limited and inconsistent efficacy with high toxicity rates
- Nirogacestat, a γ-secretase inhibitor (GSI), 150 mg twice daily was approved in November 2023 for systemic treatment of progressing desmoid tumors in adults

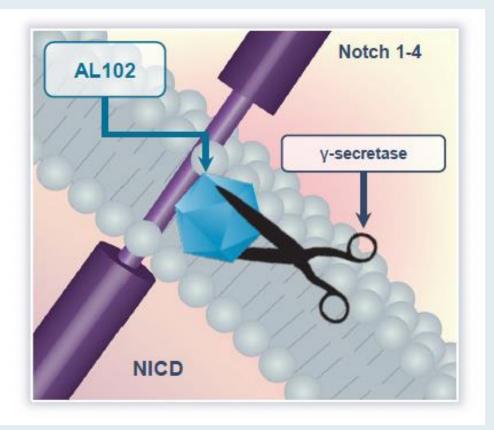
AL102 Investigational Drug

 AL102 1.2 mg once daily is a GSI currently under investigation in the Phase 3 RINGSIDE trial (fully enrolled as of February 2024) as a treatment for desmoid tumors



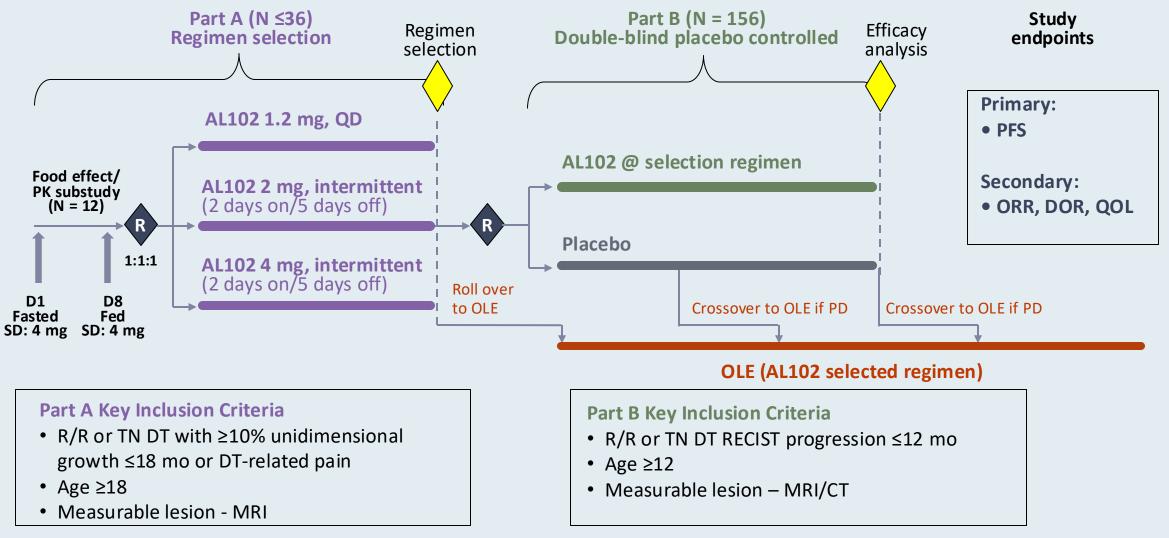
Desmoid Tumors: Pathophysiology

- Desmoid tumors are driven by CTNNB1 (somatic) mutations (~85%) or APC (germline) mutations (10-15%)—both result in activation of the Wnt Pathway
- There is overlap and direct cross talk between
 Notch target gene activation and the Wnt Pathway
- γ-secretase inhibitors (GSIs) are potent modulators of Notch
- Investigational AL102 is a selective inhibitor of γ-secretase-mediated Notch signaling in vitro





RINGSIDE Phase II/III Study Design



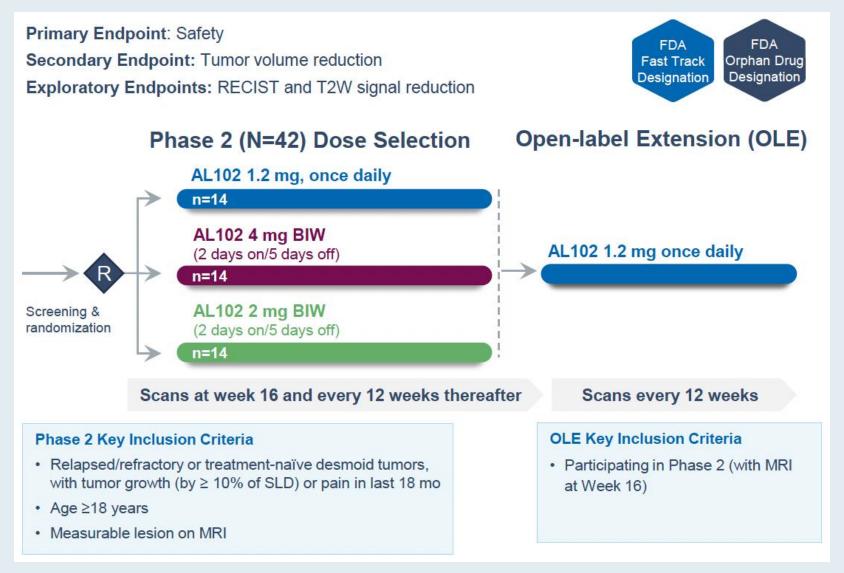
ORR = overall response rate; DOR = duration of response; SD = study dose; OLE = open-label extension; PD = progressive disease; R/R = relapsed/refractory; TN = treatment-naïve; DT = desmoid tumor

Kasper B et al. ESMO 2024; Abstract 1766P;

https://www.sec.gov/Archives/edgar/data/1797336/000121390022015423/f10k2021 ayalapharma.htm.



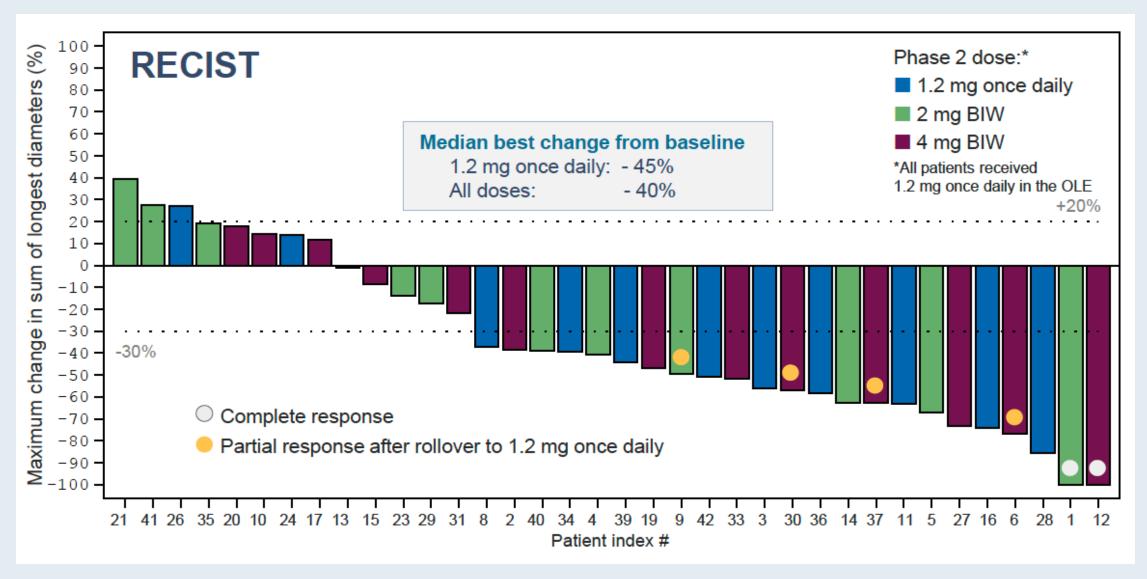
RINGSIDE Phase II Study Design (Part A)



SLD = sum of the largest diameters of target lesion(s)



RINGSIDE: Best Overall Response by RECIST per BICR







RINGSIDE: Treatment-Emergent Adverse Events

TEAEs reported in ≥25% 1.2 mg once da		daily (N=14)	aily (N=14) All patients all doses (N=42	
of all patients, n (%)	All Grades	Grade ≥3*	All Grades	Grade ≥3*
Any preferred term	14 (100.0)	6 (42.9)	42 (100.0)	23 (54.8)
Diarrhea	14 (100.0)	2 (14.3)	36 (85.7)	5 (11.9)
Nausea	8 (57.1)	0	23 (54.8)	0
Fatigue	8 (57.1)	0	22 (52.4)	1 (2.4)
Dry skin	7 (50.0)	0	15 (35.7)	0
Headache	3 (21.4)	0	15 (35.7)	0
Hypophosphatemia	7 (50.0)	0	15 (35.7)	0
Cough	3 (21.4)	0	14 (33.3)	1 (2.4)
Rash	1 (7.1)	0	14 (33.3)	1 (2.4)
Stomatitis	7 (50.0)	1 (7.1)	14 (33.3)	1 (2.4)
Alopecia	7 (50.0)	0	13 (31.0)	0
Hot flush	3 (21.4)	0	13 (31.0)	0
Dry mouth	6 (42.9)	0	12 (28.6)	0
Rash maculo-papular	5 (35.7)	0	11 (26.2)	1 (2.4)
Vomiting	3 (21.4)	0	11 (26.2)	1 (2.4)

^{*}No Grade 4 or Grade 5 events were reported



Agenda Management of Desmoid Tumors

Introduction: Biology and Clinical Presentation

Module 1: Tyrosine Kinase Inhibitors

Module 2: Gamma Secretase Inhibitors

Module 3: Faculty Case Presentations



Presentation

65-year-old man worked up for intermittent abdominal pain

- Abdominal imaging shows 5-cm mass in mesentery:
 - Suggestive of desmoid fibromatosis
 - No sign of bowel compression
 - In retrospect, had been present for at least 6 months, when it measured 2.5 cm

Baseline imaging

6 months before diagnosis



At diagnosis



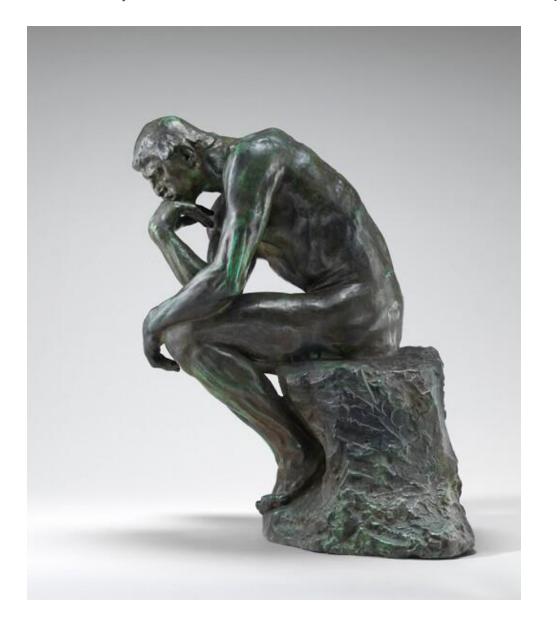
Diagnosis

DESMOID FIBROMATOSIS with keloidal hyalinization.

Immunohistochemistry:

Positive - beta-catenin (nuclear), desmin (focal) Negative - DOG1, S100, AE1/3

Discussion with patient: to treat or not to treat?
That is the question.



In favor of surveillance

Non-malignant disease

Few symptoms

Possibility of spontaneous regression

In favor of immediate treatment

Presence of symptoms

Active growth

Wide range of therapeutic options

Which options?

- Cytotoxic chemotherapy
 - Methotrexate-based regimen
 - Liposomal doxorubicin
- Tyrosine kinase inhibitor
 - Sorafenib
 - Pazopanib
- Nirogacestat
- No indication for surgery

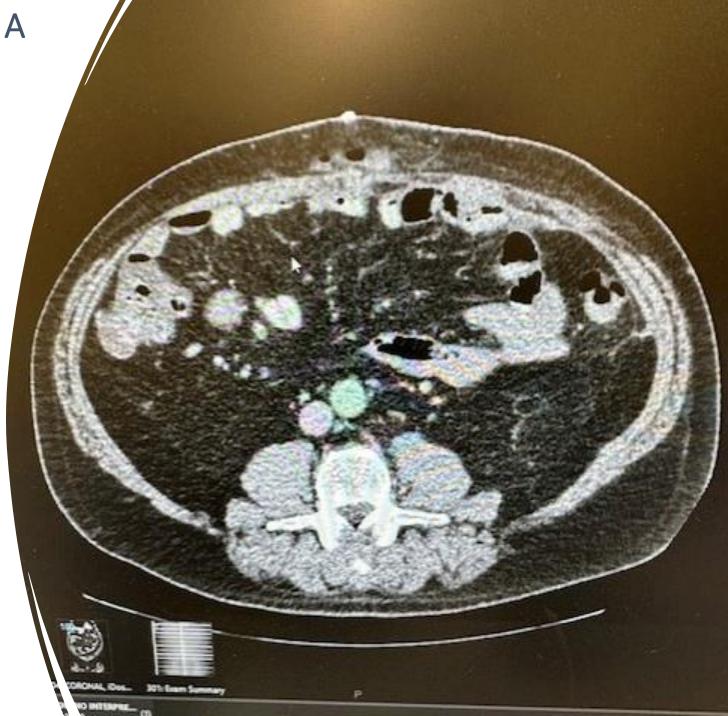
Discussion and decision

- He wished to avoid cytotoxic chemotherapy
 - IV route
 - Side effect profile
 - "Stigma"
- I was concerned about sorafenib
 - Antiangiogenic properties
 - Risk of abdominal complications?
 - Side effect profile
- We chose nirogacestat: 150 mg po bid

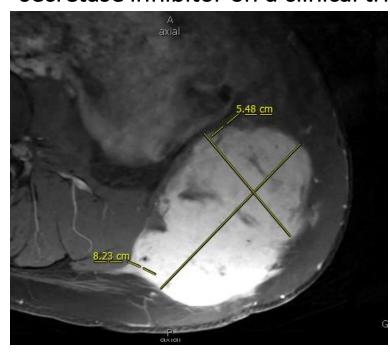


Evolution

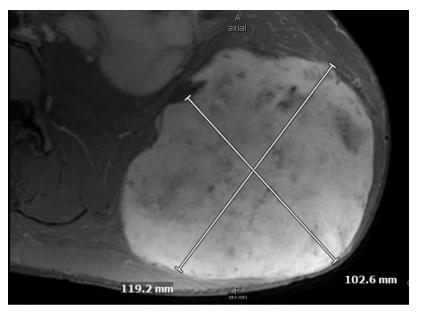
- Good tolerance, but occasional diarrhea:
 - Treated with loperamide prn
 - No need for dose adjustment
- Tumor shrinkage: 5 cm to 2 cm in 6 months
- Plan: continue to maximal size reduction but for defined time?



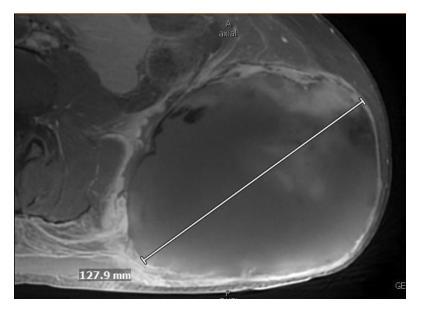
Case Presentation – Dr Gounder: A 43-year-old woman with desmoid tumor treated with a gamma secretase inhibitor on a clinical trial



2022 – refractory to GSI inhibitor



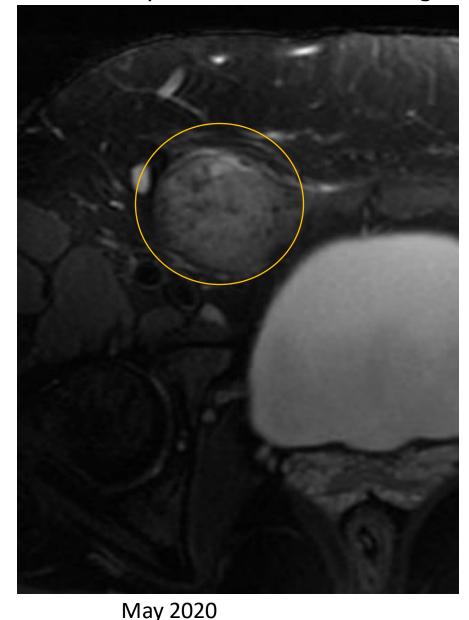
2024 – growth on observation



2024 – 1 month after trans-arterial chemoembolization with doxorubicin beads

Case Presentation – Dr Gounder: A 38-year-old woman with a large groin desmoid tumor

Extremity desmoid treated on nirogacestat – decrease in size and cellularity of tumor



Aug 2023

13.7 mm

13.5 mm

Presentation

- 30-year-old woman with well-controlled hypothyroidism undergoes minor surgery for "lipoma" in back
- Specimen not sent to Pathology
- 3 months later, seen by other surgeon for recurrent mass with rapid growth: 11.5 cm!
- Painful mass preventing her from lying down

Baseline imaging



Diagnosis

• DESMOID FIBROMATOSIS.

How to treat?

- This time, no debate about need to treat:
 - Pain and interference with daily life
 - Rapid growth after inappropriate surgery
- Options considered:
 - Surgery
 - Other local therapies
 - Systemic therapy

Local treatment options

- Surgery
 - Risk for further recurrence even after 2nd operation
 - Would require extensive excision with large skin removal and risk of local complications
- Radiotherapy
 - Scarring/fibrosis in large field
 - Late complications (e.g. secondary malignancy)
- Cryotherapy
 - Tumor too voluminous

Systemic treatment options

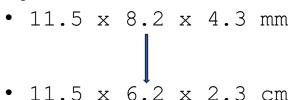
- Her preference:
 - Oral treatment
 - No or little risk for fertility
- We settled on sorafenib 400 mg po daily

Evolution

• No side effect!

 Subjective: tumor has become flatter over 3 months

• Objective:



Duration of treatment undefined

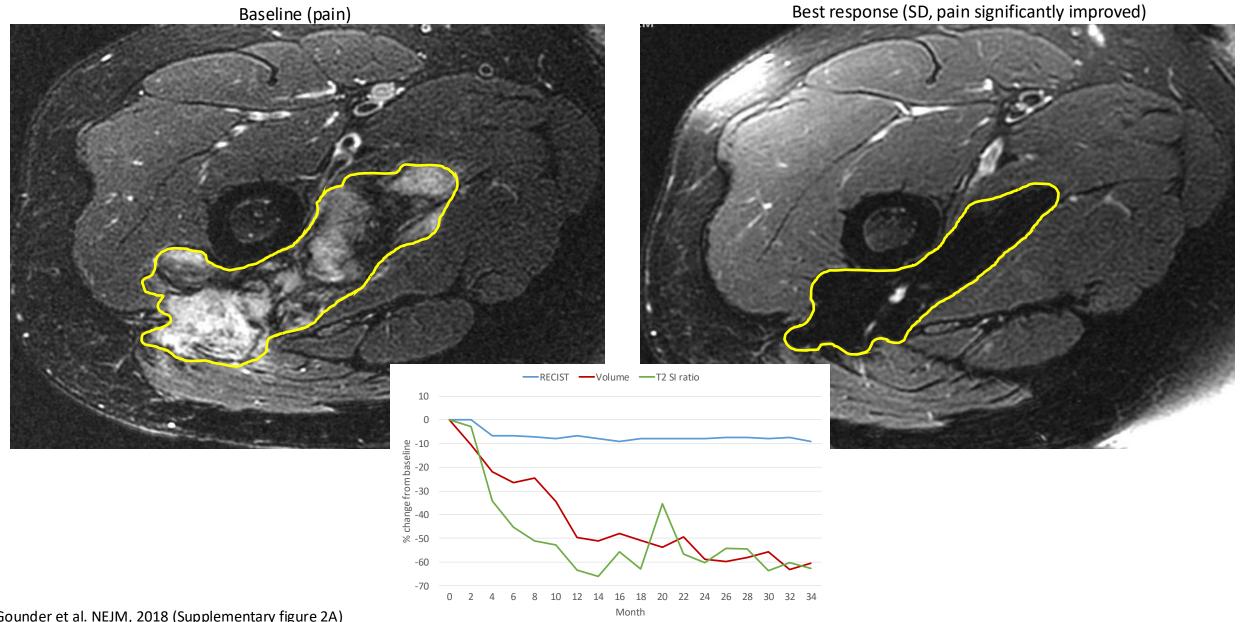


In summary

- First: does the patient need to be treated?
 - Size, location of tumor
 - Symptoms
 - Growth
- If treatment indicated, consider advantages and risks
 - Surgery: operative risk, mutilation
 - Radiotherapy: fibrosis, secondary cancers
 - Systemic therapy: individual toxicity profile of each regimen
- Shared decision-making with patient

Case Presentation – Dr Gounder: A 48-year-old man with desmoid tumor of the lower extremity

Extremity desmoid treated on sorafenib – change seen from cellular to collagenous tumor



Practical Perspectives: Optimizing the Role of BTK Inhibitors in the Management of Mantle Cell Lymphoma

A CME/MOC-Accredited Live Webinar

Wednesday, September 25, 2024 5:00 PM – 6:00 PM ET

Faculty
Tycel Phillips, MD
Michael Wang, MD

Moderator Neil Love, MD



Thank you for joining us!

Please take a moment to complete the survey currently up on Zoom. Your feedback is very important to us. The survey will remain open for 5 minutes after the meeting ends.

Information on how to obtain CME, ABIM MOC and ABS credit is provided in the Zoom chat room.

Attendees will also receive an email in 1 to 3 business days with these instructions.

