



LA QUALITÀ E IMMAGINE MEDICINA DI LABORATORIO
D'INNOVAZIONE NEL DIPARTIMENTO
DIDAGNOSTICA PER FERRARA
Sabato 31 ottobre 2009
Aula Magna delle Nuove Cliniche
Arcispedale S. Anna, Ferrara

La Radiologia Interventistica nell'Insufficienza Venosa Cronica Cerebro-Spinale (CCSVI)

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Arcispedale S. Anna
Modulo Dipartimentale di Radiologia Vascolare e d'Interventistica



La Radiologia Interventistica nell'Insufficienza Venosa ~~Cronica Cerebro-Spinale (CCSVI)~~

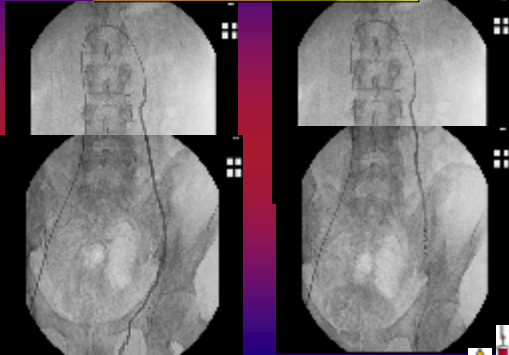
Scleroembolizzazione
Angioplastica (PTA)

Modulo Dipartimentale di Radiologia Vascolare e d'Interventistica



La Radiologia Interventistica nell'Insufficienza Venosa

Scleroembolizzazione varicocele

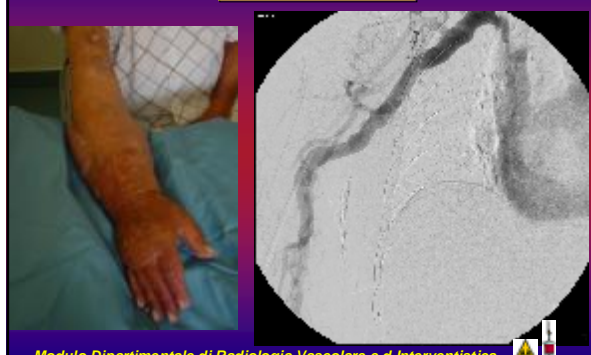


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La Radiologia Interventistica nell'Insufficienza Venosa

PTA F.A.V dialisi

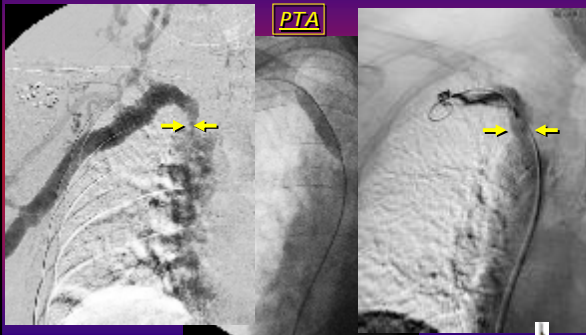


Modulo Dipartimentale di Radiologia Vascolare e d'Interventistica



La Radiologia Interventistica nell'Insufficienza Venosa

PTA



Modulo Dipartimentale di Radiologia Vascolare e d'Interventistica



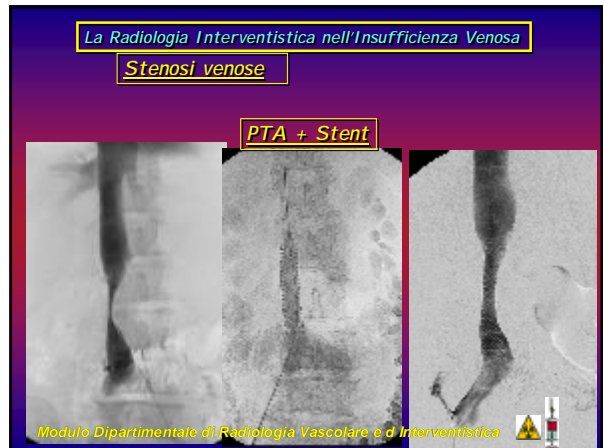
La Radiologia Interventistica nell'Insufficienza Venosa

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Modulo Dipartimentale di Radiologia Vascolare e d'Interventistica



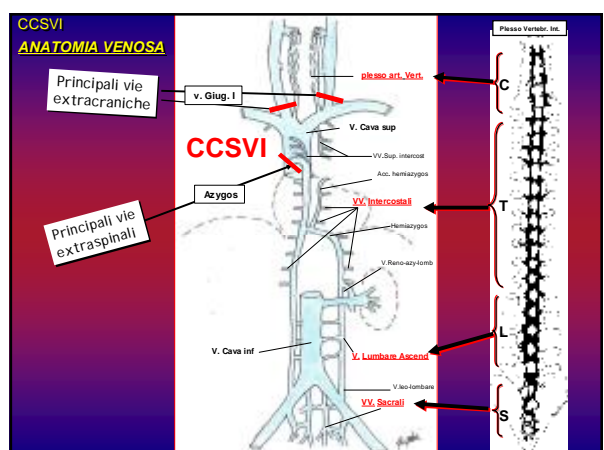
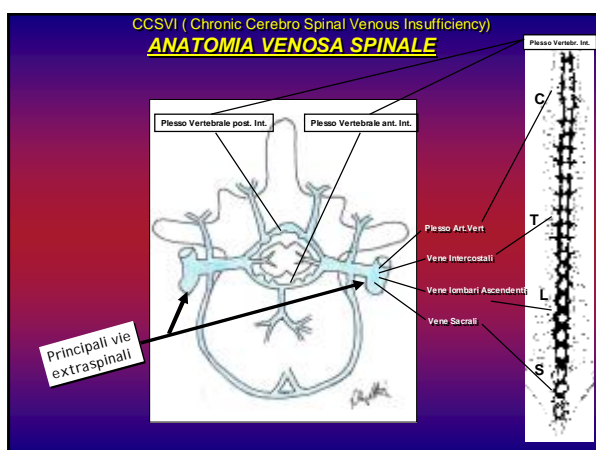
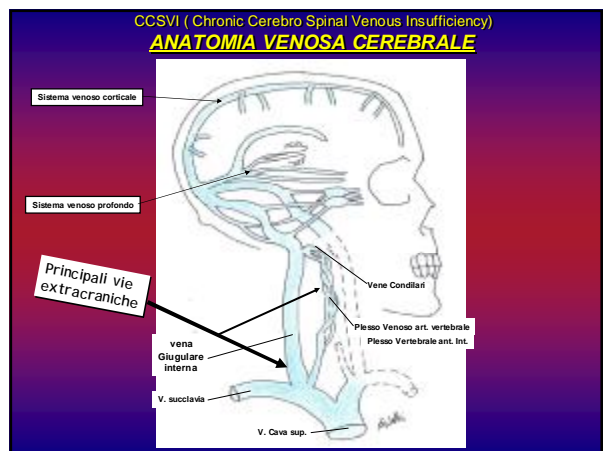


La Radiologia Interventistica nell'Insufficienza Venosa Cronica Cerebro-Spinale (CCSVI)

CCSVI (Chronic Cerebro Spinal Venous Insufficiency)

GUIDELINES FOR DIAGNOSIS AND TREATMENT OF VENOUS MALFORMATIONS
A CONSENSUS DOCUMENT OF THE INTERNATIONAL UNION OF PHLEBOLOGY
APPROVED BY THE EXPERTS OF 47 COUNTRIES AT THE IUP WORLD CONGRESS,
MONTECARLO, SEPTEMBER 3TH, 2009
IN PRESS ON INTERNATIONAL ANGIOLOGY, 2009

“Quadro vascolare caratterizzato da stenosi combinate delle principali vie del drenaggio venoso extracranico ed extravertebrale, localizzate a livello toracico ed addominale”



CCSVI
ANATOMIA VENOSA

J.Aboulker et al
L'Hypertension venouse intra-rachidienne par anomalies multiples du systeme cave
Acta Radiologica 1975

Vie di iperafflusso

Plesso Venoso Int.

V. Renospino-lombare

V. Ileo-lombare

CCSVI (Chronic Cerebro Spinal Venous Insufficiency)

JOURNAL OF THE ROYAL SOCIETY OF MEDICINE VOLUME 93 DECEMBER 2004

The Big Idea: Iron-dependent inflammation in venous disease and proposed parallels in multiple sclerosis

Professor Paolo Zamboni

CCSVI (Chronic Cerebro Spinal Venous Insufficiency)

Journal of the Neurological Sciences

The value of cerebral Doppler venous haemodynamics in the assessment of multiple sclerosis

Paolo Zamboni¹, Elisa Mengozzi, Roberto Lubich, Anna Maria Ntziogi, Cleonora Taccoti, Sergio Dall'Acqua, Rita Bartolucci¹, Fabrizio Sulvi¹

CCSVI (Chronic Cerebro Spinal Venous Insufficiency)

COME STUDIARLA

- Accesso vena femorale sinistra
- Flebografia vena iliaca sinistra
- Flebografia vena ileo-lombare sinistra
- Flebografia vena renale sinistra
- Flebografia vena azygos
- Flebografia bilaterale vene Giug. I.
- Flebografia bilaterale vene vertebrali

CCSVI (Chronic Cerebro Spinal Venous Insufficiency)

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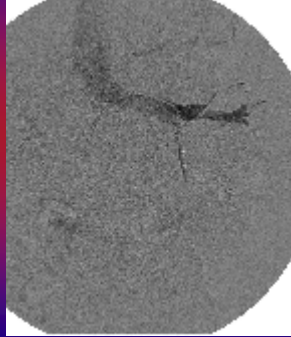
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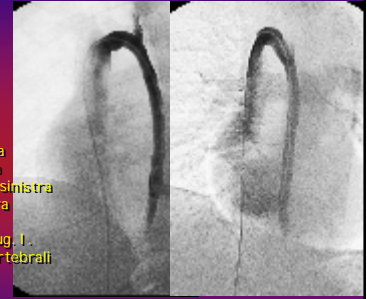
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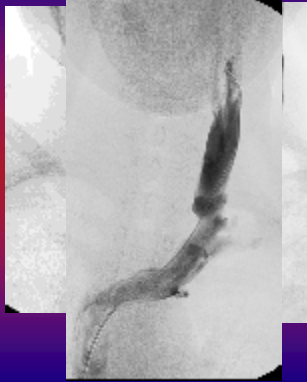
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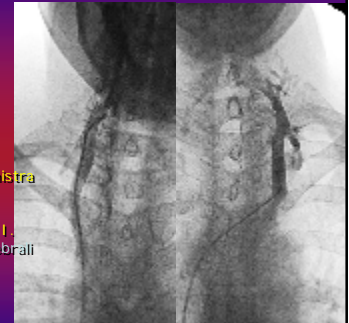
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CCSVI (Chronic Cerebro Spinal Venous Insufficiency)

TRATTAMENTO RADIOLOGICO ENDOVASCOLARE

STUDIO OPEN LABEL

- 65 pazienti (18-65 years)
- Affetti da MS (revised Mc Donald criteria)
- Evidenza EcoColorDoppler CCSVI
- Flebografia come "road-map"
- Trattamento con angioplastica PTA
- Follow-up medio 18 mesi

CCSVI (Chronic Cerebro Spinal Venous Insufficiency)

TRATTAMENTO RADIOLOGICO ENDOVASCOLARE
STUDIO OPEN LABEL

Quadri Flebografici

Principali tipi di deflusso extracraniche/extravertebrali

100% corrispondenti all'EcoColorDoppler

	Normal segment	Annulus	Septum-Valve malformation	Hypoplasia**	Twisting	Membranous obstruction	Agenesis
AZY	9	0	9	6	0	31	0
Distal AZY*	50	0	0	3	12	0	0
Lombare	59	0	0	1	0	0	5
IVc	13	18	30	4	0	0	0
IVl	4	34	28	4	0	0	0

* Distal AZY is extended below the arch
** Hypoplasia can be combined with other malformations in the AZY and in the IVl

CCSVI (Chronic Cerebro Spinal Venous Insufficiency)
TRATTAMENTO RADIOLOGICO ENDOVASCOLARE
 STUDIO OPEN LABEL **V. Giug. I** Quadri Flebografici

This slide displays three panels of venography for the internal jugular vein (V. Giug. I). The panels show the vein in different projections, likely anteroposterior, lateral, and oblique views, demonstrating its course and any potential stenosis or reflux. A light blue oval is present in the bottom left corner.

CCSVI (Chronic Cerebro Spinal Venous Insufficiency)
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CCSVI (Chronic Cerebro Spinal Venous Insufficiency)
TRATTAMENTO RADIOLOGICO ENDOVASCOLARE
 STUDIO OPEN LABEL **AZYGOS** Quadri Flebografici

This slide displays two panels of venography for the azygos vein system. The panels show the azygos vein in different projections, likely anteroposterior and lateral views, demonstrating its course and any potential stenosis or reflux. A light blue oval is present in the bottom left corner.

CCSVI (Chronic Cerebro Spinal Venous Insufficiency)
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CCSVI (Chronic Cerebro Spinal Venous Insufficiency)
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CCSVI (Chronic Cerebro Spinal Venous Insufficiency)
TRATTAMENTO RADIOLOGICO ENDOVASCOLARE

STUDIO OPEN LABEL

AZYGOS Quadri Flebografici

CCSVI (Chronic Cerebro Spinal Venous Insufficiency)
TRATTAMENTO RADIOLOGICO ENDOVASCOLARE

STUDIO OPEN LABEL

AZYGOS Quadri Flebografici

CCSVI (Chronic Cerebro Spinal Venous Insufficiency)
TRATTAMENTO RADIOLOGICO ENDOVASCOLARE

STUDIO OPEN LABEL

AZYGOS Quadri Flebografici

CCSVI (Chronic Cerebro Spinal Venous Insufficiency)
TRATTAMENTO RADIOLOGICO ENDOVASCOLARE

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Vena Iliaca e Renale Quadri Flebografici

Vie di iperafflusso

CCSVI (Chronic Cerebro Spinal Venous Insufficiency)
TRATTAMENTO RADIOLOGICO ENDOVASCOLARE

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FLEBOGRAFIA

SEDI DI DI STENOSI

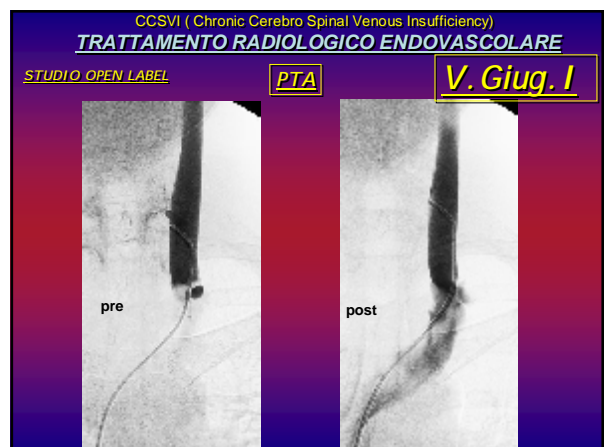
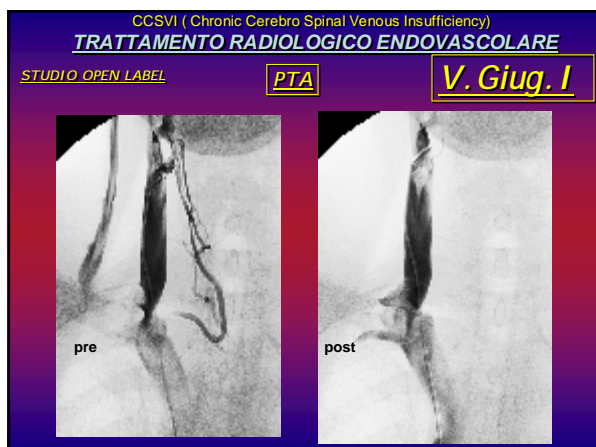
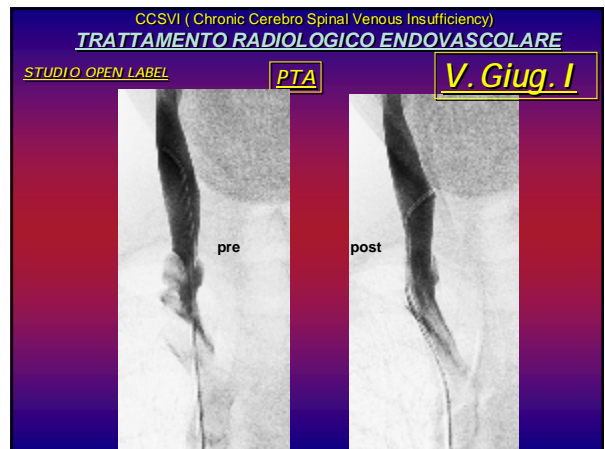
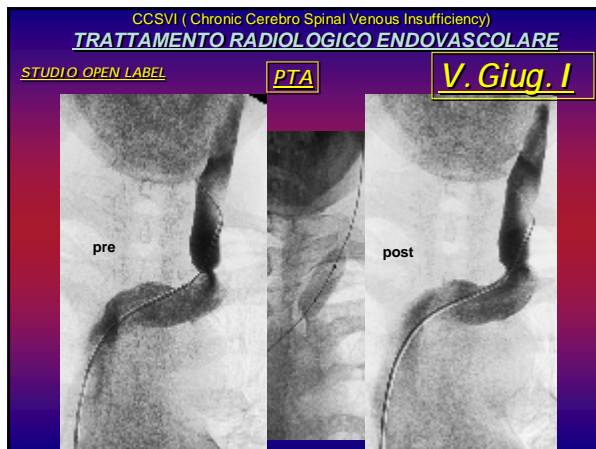
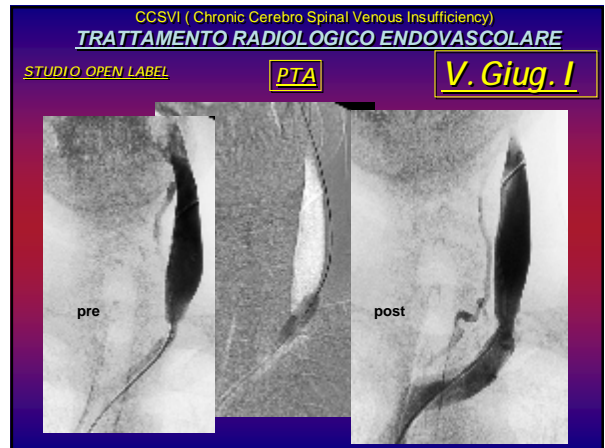
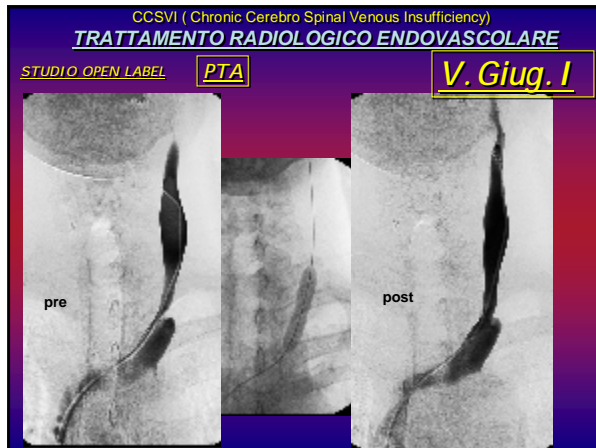
Principali vie di deflusso extracraniche/extravertebrali	•V.Giug.I.	91%	"trigger"
	•Azygos	86%	
Vie di iperafflusso	•Vena iliaca sin	4,6%	"concomitanti"
	•Vena renale sin	4,6%	

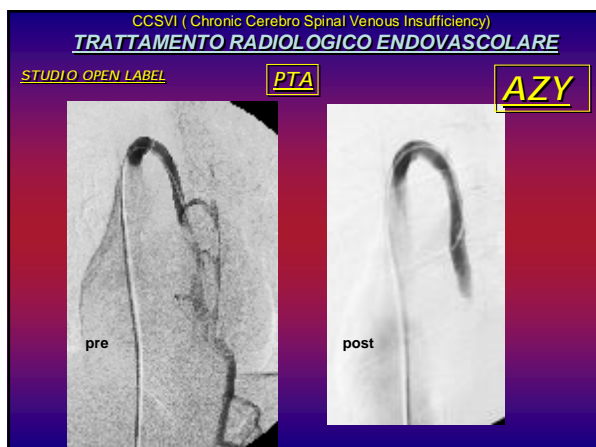
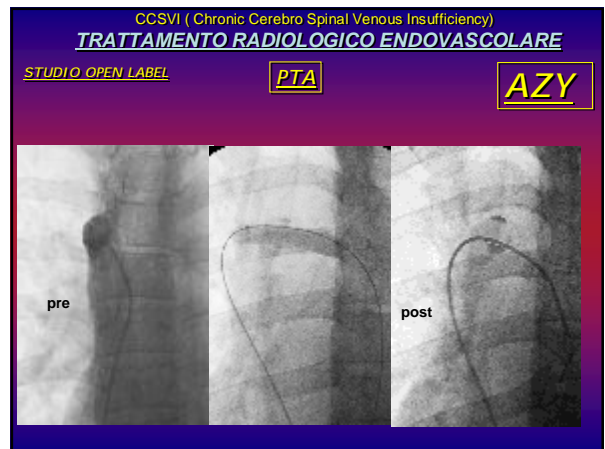
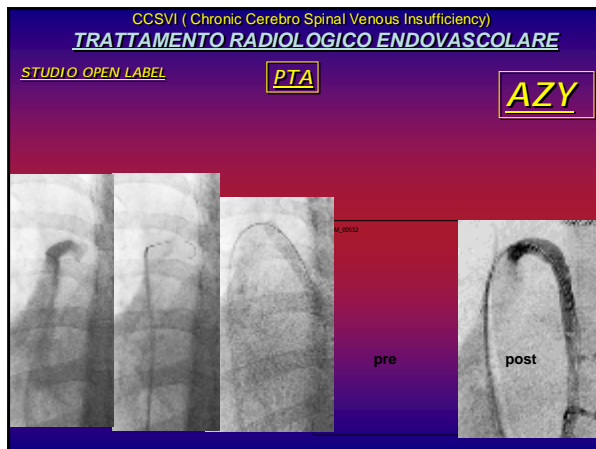
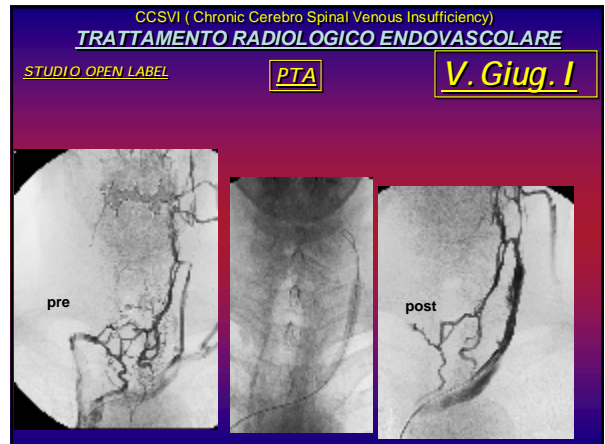
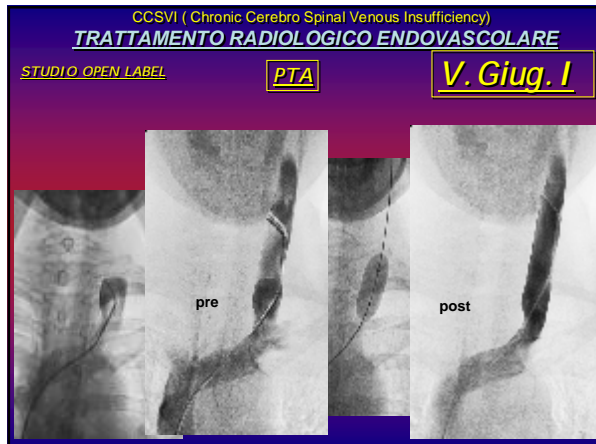
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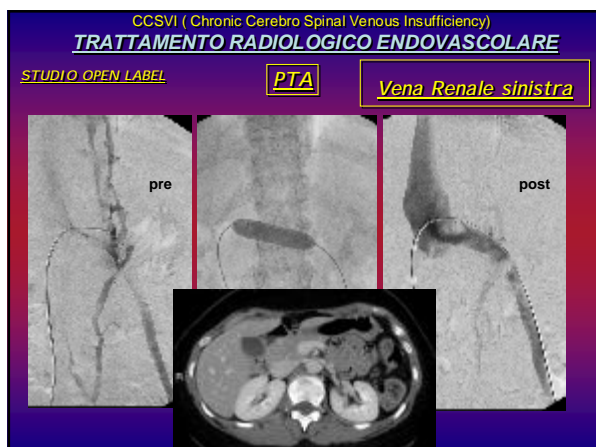
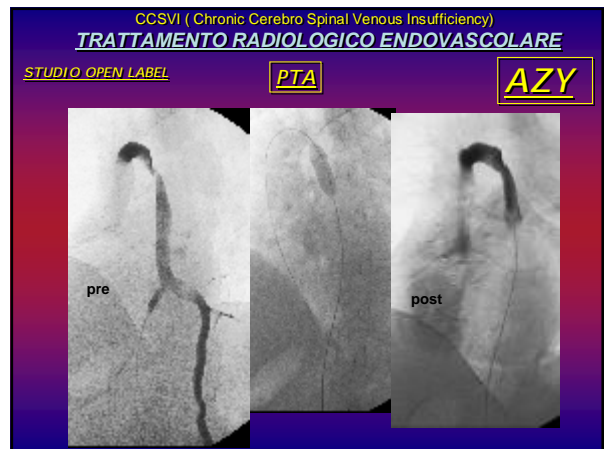
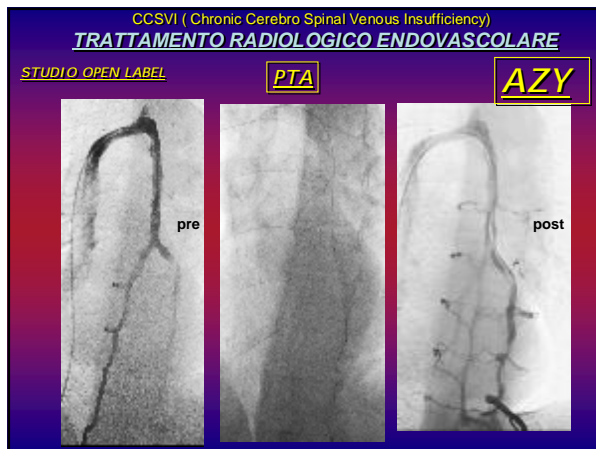
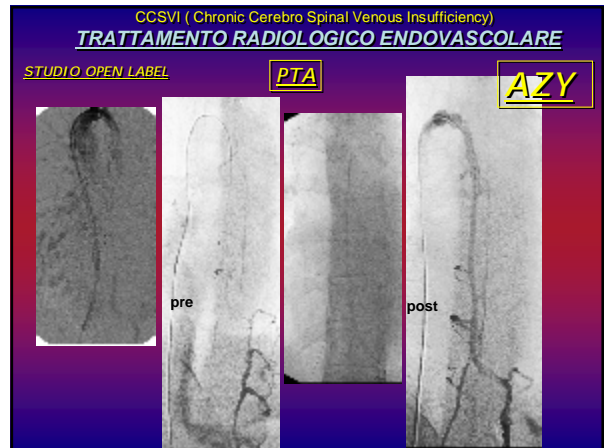
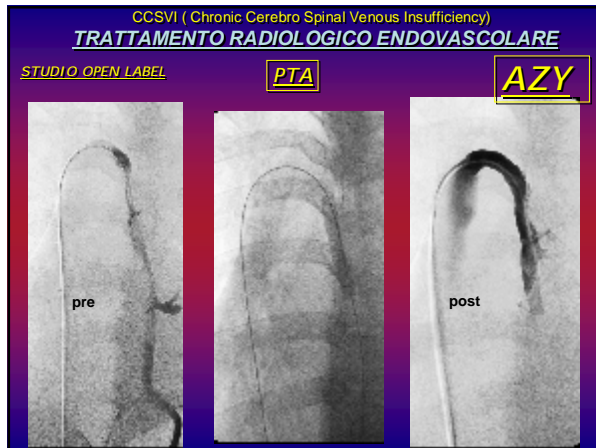
STUDIO OPEN LABEL

Angioplastica PTA

Palloncini Complianti / Non Complianti







CCSVI (Chronic Cerebro Spinal Venous Insufficiency)
TRATTAMENTO RADIOLOGICO ENDOVASCOLARE

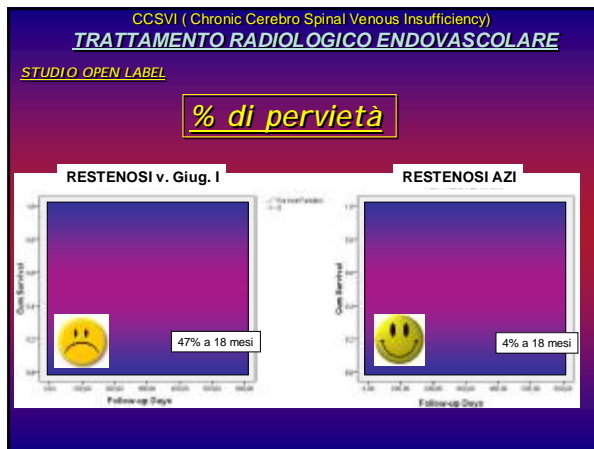
STUDIO OPEN LABEL **PTA**

Risultati Vascolari

- Pressione Venosa pre /post
- Incidenza di complicanze
- % di pervietà (EcoColorDoppler 1,3,6,12,15,18 mesi)



- CCSVI (Chronic Cerebro Spinal Venous Insufficiency)
TRATTAMENTO RADIOLOGICO ENDOVASCOLARE
 STUDIO OPEN LABEL
- Incidenza di complicanze**
- No complicanze maggiori (trombosi acuta, rottura vaso)
 - 4 ematomi femorali minori
 - 2 dissecazioni venose
 - 6 cefalea transitoria post-op



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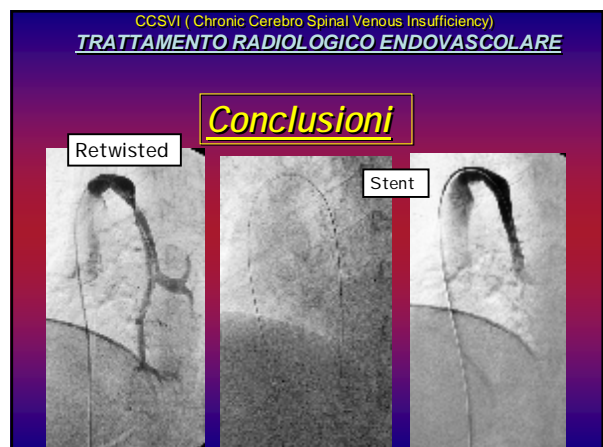
Conclusioni

PTA è sicura e ben tollerata

CCSVI (Chronic Cerebro Spinal Venous Insufficiency)
TRATTAMENTO RADIOLOGICO ENDOVASCOLARE

Conclusioni

Resultati promettenti nell' AZY
 (pervietà del 96% a 18 mesi)



Conclusioni

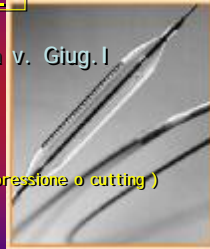
% di Restenosi elevata nella v. Giug.I
 (47 % a 18 mesi)



•Redilatazione (palloni ad alta pressione o cutting)

•Chirurgia Open

•Stent



Conclusioni



Conclusioni

Cambiamenti post procedurali nei pazienti RR (relapsing remitting)

	Pre procedure	18 Months F-Up	p value
Annualized relapse rate	0.9 ± 0.8	0.7 ± 1	ns
% of patients relapse free	27%	59%	p<0.0014
% Patients with MRI Gad+ lesions	50%	12%	p<0.0001
MSPHC QoL	66 ± 18	84 ± 16*	P<0.0097
MISMHC QoL	61 ± 22	82 ± 13*	P<0.003
MSEC	5.5e-18 ± 0.7	0.65 ± 0.5*	P<0.008

Legend: MRI Gad+ lesions: Gadolinium enhanced lesions; MSPHC QoL: Score of perceived quality of life in the MS questionnaire; MISMHC QoL: Score of motor quality of life in the MS questionnaire; MSEC: Multiple Sclerosis Functional Composite disability score expressed by the Zang score, which integrates evaluation of the results of the upper and lower extremities with cognitive function.



Roberto Galeotti
 Elisabetta Salviato

Emanuele Sorpili
 Daniele Lazzarini
 Stefano Rossi
 Manisa Colussi
 Francesca Gardi
 Debora Chianni
 Luca Maietti

Alberta Manservigi
 Silvia Giorgi
 Patrizia Busi
 Mara Simoni

Luigi Capra

GRAZIE PER L'ATTENZIONE